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OVERSIGHT OF U.S. PROGRESS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT

HEARING

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT OF
GOVERNMENT MANAGEMENT

OF THE

COMMITTEE ON
GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

JUNE 13, 1990

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OVERSIGHT OF U.S. PROGRESS UNDER THE GREAT LAKES WATER QUALITY AGREEMENT

WEDNESDAY, JUNE 13, 1990

U.S. SENATE,
SUBCOMMITTEE ON OVERSIGHT,
OF GOVERNMENT MANAGEMENT,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 9:37 a.m., in room SD-342, Dirksen Senate Office Building, Hon. Carl M. Levin, Chairman of the Subcommittee, presiding.

Present: Senators Levin, Glenn, Kohl, and Heinz.

Staff present: Linda J. Gustitus, Staff Director and Chief Counsel; Elise J. Bean, Counsel; Frankie DeVergie, Chief Clerk; and Frank Garavaglia, Intern.

OPENING STATEMENT OF SENATOR LEVIN

Senator LEVIN. Good morning, everybody. Today we are holding the fifth in a series of hearings on what the United States is doing to protect and restore the Great Lakes under the Great Lakes Water Quality Agreement with Canada.

Last week, I witnessed firsthand how far we have to go. I went out on the Environmental Protection Agency's new boat called the Mud Puppy. The Mud Puppy is designed to collect samples of sediments from the bottoms of lakes and rivers. These samples are then analyzed for pollutants and used to develop plans for environmental cleanups. I went out with the crew to watch them collect sediments from the bottom of the Trenton Channel in Michigan, and, let me tell you, based on what I saw, the boat could be named the Sludge Puppy. I saw the crew extract 8 feet of the worst smelling muck that I have ever seen, including layer upon layer of what looked like thick black oil.

It was a graphic display of what years of pollution and environmental neglect have done to parts of the Great Lakes.

Last October, two respected environmental groups, the Conservation Foundation and the Institute for Research on Public Policy, issued a joint report on the overall health of the Great Lakes, noting improvements since the 1970's but also warning of ongoing pollution problems. They drove their point home by describing the state of Great Lakes wildlife—eagles that reproduce poorly, cormorants with beak deformities, dwindling mink populations, and schools of trout that can no longer survive without assistance.

At the press conference releasing this report, EPA Administrator Bill Reilly announced that "we must redouble our existing efforts to protect and restore this vital resource"—referring to the Great Lakes—and he committed the EPA "to an agencywide effort to focus on Great Lakes issues."

It was compelling rhetoric, and it was right on the mark. The Great Lakes is the largest freshwater body on earth, with about 90 percent of the fresh surface water in the United States. They supply drinking water for millions and support industries worth billions of dollars. They are an irreplaceable treasure, and they need Federal help. I saluted Mr. Reilly at that time for his resolve to improve EPA's Great Lakes programs.

But it is now 8 months later, and there is little evidence that Mr. Reilly's directives have had much effect. With few exceptions, EPA's Great Lakes programs remain dead in the water, with progress about as murky as the sediments hauled up by the Mud Puppy.

The lack of progress on EPA's programs can be measured against the findings at our hearings last year on actions taken by the United States to meet its obligations under the Great Lakes Water Quality Agreement. This international agreement, signed by the United States and Canada, provides long-term goals and practical initiatives to revitalize the Great Lakes. Last year's hearings showed that in virtually every major Great Lakes program, EPA had allowed key initiatives to stagnate. Its failures included dropping the ball on Remedial Action Plans and Lakewide Management Plans, failing to reduce interstate disparities in water quality standards, and twiddling its thumbs on projects to demonstrate technologies to clean up contaminated sediments. When confronted with specific program failures, EPA's witnesses promised to improve their performance.

It is now more than a year since the first hearing, but not much has happened to improve Federal Great Lakes programs. Despite a clarion call to action by the EPA Administrator, too many of the same problems remain and too many of the promises made a year ago remain unmet.

For example, in April 1989, only one Remedial Action Plan out of 42 needed to clean up designated toxic hotspots had been finalized. One year later, the same is true.

In September 1989, EPA promised to send to OMB new regulations strengthening its oil Spill Prevention, Control and Countermeasures Program. Eight months later, those regulations have yet to leave EPA's doors.

In April 1989, EPA had not begun drafting the promised Lakewide Management Plan to control critical pollutants in Lake Michigan. Despite a pledge to produce a draft by July 1990, 1 year later this draft still hasn't even been started.

One of the few bright spots since last year is a new effort by EPA to produce more uniform water quality standards among the Great Lakes States. Known as the Great Lakes Initiative, it involves EPA and the eight Great Lakes States in a joint effort to produce recommended water quality standards to protect human health, aquatic life and wildlife, as well as antidegradation policies and implementation procedures. I understand that significant progress has been made on that initiative.

We will be asking EPA today why most of its Great Lakes programs continue to stagnate, what actions are planned to make Mr. Reilly's call to action a reality, and what Congress can do to help re-energize Federal efforts to clean up the Great Lakes.

We will also learn about what contribution the Army Corps of Engineers might make to help EPA in its Great Lakes plans.

Due to the farsightedness of the Great Lakes Water Quality Agreement, our region is at the cutting edge of the modern antipollution effort. The Great Lakes Water Quality Agreement provides a model of cross-media pollution control programs and international environmental cooperation. The Great Lakes system provides a natural laboratory for research and action on such pressing issues as the bioconcentration of toxics, the interaction of air and water pollution, and treatment of contaminated sediments.

Given the importance of this natural resource, we must pick up the pace of Federal Great Lakes programs. We want our children to inherit the Great Lakes as a living national treasure. We can't afford to be casual about our responsibilities. There is simply too much at stake. We need EPA's full and active support.

Let me first call upon our Committee Chairman, Senator John Glenn, for an opening statement.

OPENING STATEMENT OF CHAIRMAN GLENN

Chairman **GLENN**. Thank you, Mr. Chairman. I appreciate being recognized because I do want to make a few comments here.

I want to start by complimenting you on your initiative in scheduling this hearing on an item that is vital to all of us in the Great Lakes area under the Great Lakes Water Quality Agreement. The health and well-being of the Great Lakes ecosystem and the people who reside in it depend upon our fulfillment of our part of the agreement, and congressional oversight is very much in order.

The Great Lakes Water Quality Agreement is a landmark binational accord with Canada that provides a prescription of effective cooperation and coordination for a healthier Great Lakes environment. The agreement was first established in 1972—it is about 18 years old—with the primary objective of controlling nutrient pollution, especially phosphate loading, of the Lakes. Both our countries followed that agreement, basically, by constructing sewage treatment facilities, removing phosphates from detergents, and controlling runoff. Because of that, a rapidly deteriorating system was considered to be revived. This transformation was especially evident in Lake Erie, a Great Lake which was once pronounced dead and now supports an abundant fishing industry.

By the late 1970's, a greater threat to the Great Lakes environment had become apparent. We learned that "clear" water was not necessarily "clean" water as high levels of toxic compounds were discovered in the lakes, as well as in fish, wildlife, and human populations that live in or near them. So the agreement was updated and revised in 1978, and again in 1987 to deal with the complex problems of toxic pollution. Once again, well-conceived and highly respected approaches to resolving these problems were prescribed through the agreement revisions, including development and implementation of Remedial Action Plans for toxic hotspots and Lakewide Management Plans for each lake. The Great Lakes Atmospheric Deposition Monitoring Network is also an integral part of the overall prescription for a healthier Great Lake ecosystem.

The Great Lakes Water Quality Agreement is a serious commitment between neighbors, the United States and Canada, but it is also a serious commitment between the party nations and their respective citizens—a commitment to respect and restore the Great Lakes as a natural resource and as a living environment.

The agreement provides a remarkable road map for restoring the good health of the Great Lakes ecosystem, but it does not remove the need for us to make that journey. Real progress can only come from completion of the agreement programs. Fortunately, commitment at the State and local level within the region to pitch in and get the job done is strong on both sides of the border. This attitude of cooperation and good faith which characterizes our region is a true asset because the agreement wisely assigns a principal role to local entities. The question that we need to address here today is whether the United States Federal level, as the chairman has pointed out, is doing its share to support these local and State actions. The job is so immense and so important that we cannot afford any slouching, least of all from the Federal entity that signed that agreement in the first place.

Among the obstacles that can impede progress under the agreement, a shortage of Federal dollars is by far the most problematic. I am a Co-Chair of the Senate Great Lakes Task Force, and I have worked closely with my Great Lakes colleagues to bring Federal funding back to Great Lakes environmental programs. We have enjoyed some success. Great Lakes programs receive 15 percent more funding in 1990 than 1988, but we are still operating on 10 percent less than 1980 in inflation-adjusted dollars.

The President's proposed budget would further cut our programs by $131 million, including our share of State revolving loan fund money. So, clearly, we need to support each other in bringing these numbers up to reasonable levels—levels that reflect the fact that 26 million people drink Great Lakes water and, even more, live in that Great Lakes area basin.

Last year, I asked GAO to report on the United States participation in the IJC, the International Joint Commission. The report was released in June 1989, and I would recommend, Mr. Chairman, that the full text of the report GAO/NSIAD-89-164 be included in the record of this hearing, as well as followup communications provided by the State Department.[1]

Senator LEVIN. It will be made part of the hearing.

Chairman GLENN. The report had several findings of interest to the Committee. For example, the report found:

Only one of every three major recommendations from the IJC were implemented by the U.S. Government, and there was no process by which either Government advised the IJC of its determinations relative to these recommendations. Interestingly, the category of recommendations least likely to get a response was, "Greater State and Federal Cooperation." I would be interested in knowing what the obstacles were in fulfilling these recommendations because cooperation is a well-known cost-saving technique.

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[1] See p. 112.

Number 2, they found that the U.S. Government has not made a thorough review of its participation in the IJC, including an assessment of resource requirements, since 1972. Such a review is certainly recommended.

In response to this GAO report, the State Department wrote a brief paper on the two major findings. It promised to provide written responses to any and all IJC recommendations including progress, intentions for implementation, and an explanation for any intentions not to implement the recommendations. These responses will be included in the U.S. biennial report to the IJC required by the agreement. This reporting mechanism is overdue and should help us refine our understanding of progress under the agreement.

In response to the need for a thorough review of U.S. participation in the IJC, the State Department provided a brief assessment. Basically, it found that the IJC data management capabilities were the subject of a great deal of discussion and that the Commission would present its own findings on this matter at the June 1990 meeting. In terms of staffing, the State Department described the IJC staff as highly qualified but lean.

I look forward to the testimony of the IJC Co-Chairmen and the other panelists with us today to better understand the current needs of the IJC and the ways that the U.S. Government can make fulfillment of the Great Lakes Water Quality Agreement more timely and effective. The agreement provides us with a good start and clear direction. We need to follow through on our commitments.

Once again, Mr. Chairman, I congratulate you for your willingness to chair this hearing and to bring this issue to our attention once again. I apologize for a rather lengthy statement, but I think the issue is that important. I will be back if I can later in the hearing.

Senator LEVIN. Thank you so much, Senator Glenn.

Senator Kohl?

OPENING STATEMENT OF SENATOR KOHL

Senator KOHL. Thank you, Mr. Chairman.

I am very pleased to be here for this hearing this morning. It gives us an opportunity to follow up on a series of hearings which were held last year by Senator Levin and myself on water quality in the Great Lakes. Those hearings included one in Grand Rapids, Michigan, another hearing in Green Bay, Wisconsin, another one in Milwaukee, Wisconsin. We had a hearing here in Washington on the issue of oil and chemical spills in the Great Lakes, and finally I convened a public forum in Superior, Wisconsin, on these same issues.

All these hearings last year revealed serious delays in the implementation of the 1987 Great Lakes Water Quality Agreement. Despite noble commitments made by the United States and Canada, we found that very little had been done to rid the Great Lakes of the insidious and invisible problem of persistent toxics.

And there should be no question about the seriousness of the problem before us. Persistent toxics which bio-accumulate in the food chain pose a threat to the entire Great Lakes ecosystem. Fish, birds, marine animals, and even humans are at risk from exposure to the toxic substances that we have literally poured into the Great Lakes over the past 50 years.

In fish and birds, the effects are evident and indisputable. Tumors, reproductive failure, and physical deformities are among the manifestations which have been documented many times over. I was disturbed last year when scientists and Park Service officials working along the Lake Superior shoreline told me about the declining population of bald eagles, our national symbol, along the shoreline, which they believe can be attributed to toxins ingested from Great Lakes fish.

We are still learning about the possible effects on humans, but it would be foolish to sit back and wait for more evidence. Why should we gamble with the health and safety of our children and our grandchildren? We need to drastically speed up our cleanup efforts in order to reduce this threat.

Based on what we learned from last year's hearings, the glacial pace of our Great Lakes cleanup can be attributed to two simple things: lack of commitment and lack of resources. As for the first, lack of commitment, we observed a dedicated band of environmentalists, scientific people, and community activists who are actively working to improve water quality in the Great Lakes. However, on a broader scale, at the EPA, at the White House, and in Congress, the Great Lakes don't seem to rank very high in our national priorities. This lack of commitment at the top was evident.

As for resources, we learned at our hearings that more money is needed before a real cleanup can begin. The EPA needs additional funds for research programs and staff. The States need more money to help coordinate the development of Remedial Action Plans for the numerous toxic hotspots around the Great Lakes. Communities are going to need financial assistance in order to ensure that complex cleanup plans are fully implemented. Clearly, we will never get all the money we need, but we can set priorities. The fact of the matter is that we as a Nation must be willing to back up our promises with sufficient financial commitments, and that has not been the case.

Following last year's hearings, however, we did start to see some movement. Two of the Nation's largest environmental organizations released condemning reports about toxicity and declining environmental quality in the Great Lakes. Legislation introduced by Senator Levin, Senator Glenn, and myself—the Great Lakes Critical Programs Act—began to pick up steam and attract cosponsors. EPA Administrator Bill Reilly issued a memorandum establishing an agencywide advisory committee to address Great Lakes concerns. We did see a groundswell of support for the Great Lakes, and for a while we thought their time had finally arrived.

But now, just 1 year after those field hearings, we are getting the sense that little of importance has really happened. We know that some important research efforts have continued and that some limited progress has been made on achieving the goals of the Water Quality Agreement.

However, in general, it is business as usual. During the past year, we have done little to reduce the continuing flow of toxics into the Great Lakes, and we have done even less to clean up the toxics which are there already. I can't help but believe that we need a greater sense of urgency, a greater national commitment to protecting the world's largest body of freshwater and one of the world's most unique and complex ecosystems.

I still believe we will succeed. While I am frustrated by the slow pace, I am still optimistic. I believe that if Government provides the leadership, the American people will support stronger measures to protect the Great Lakes and will support higher funding levels for research and cleanup. Individuals as well as industry will do what needs to be done if we in Government give them the opportunity.

So, in that vein, I want to commend Senator Levin for his dedication to restoring environmental quality in the Great Lakes. Senator Levin's leadership on this issue has been unrivaled in recent years, I have enjoyed the opportunity to work with him, and I believe that continued attention to the Great Lakes will eventually provide the benefits that we all await: abundant wildlife habitat, swimmable and fishable water in all portions of the Great Lakes, thriving tourism and commercial fishing industries in the region, and an enviable quality of life in our Great Lakes communities.

Thank you, Mr. Chairman.

[Senator Kohl's prepared statement follows:]

PREPARED STATEMENT OF SENATOR KOHL

Mr. Chairman, I am very pleased that you scheduled this hearing, giving us an opportunity to follow up on hearings we held last year on water quality in the Great Lakes. Those hearings included one in Ann Arbor, chaired by Sen. Levin, and two which I chaired in Green Bay and Milwaukee. Another hearing was held here in Washington on the issue of oil and chemical spills in the Great Lakes. And finally, I chaired a meeting in Superior, Wisconsin on the same issues.

All those hearings revealed serious delays in the implementation of the 1987 Great Lakes Water Quality Agreement. Despite noble commitments made by the United States and Canada, we found that very little had been done to rid the Great Lakes of the insidious and invisible problem of persistent toxics.

And there should be no question about the seriousness of the problem before us. Persistent toxics, which bioaccumulate in the food chain, pose a threat to the entire Great Lakes ecosystem. Fish, birds, marine animals and possibly humans are at risk from exposure to the toxic substances that we've literally poured into the Great Lakes over the last 50 years.

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We are still learning about the possible effects on humans. But it would be foolish to sit back and wait for more evidence. Why should we gamble with the health and safety of our children and grandchildren? We need to drastically speed up our cleanup efforts in order to reduce this threat.

Based on what I learned from last year's hearings, the glacial pace of our Great Lakes cleanup can be attributed to two simple things: lack of commitment and lack of resources. As for the first, lack of commitment, I saw a dedicated band of environmentalists, scientific people and community activists who are working to improve water quality in the Great Lakes. But on a broader scale—at the EPA, at the White

House and in Congress—the Great Lakes simply don't seem to rank very high in our national priorities. The lack of commitment at the top was evident.

As for resources, we learned at our hearings that more money is needed before real cleanup can begin. The EPA needs more money for research programs and staff. The states need money to help coordinate the development of remedial action plans for the numerous toxic hot spots around the Great Lakes. Communities are going to need financial assistance in order to ensure that complex cleanup plans are fully implemented. Clearly, we'll never get all the money we think the Great Lakes need, and we'll have to set priorities. But the fact of the matter is, we as a nation must be willing to back up our promises with financial commitments, and that has *not* been the case.

Following last year's hearings, however, I started to see some movement. Two of the nation's largest environmental organizations released condemning reports about toxicity and declining environmental quality in the Great Lakes. Legislation introduced by Senator Levin and me—the Great Lakes Critical Programs Act—began to pick up steam and attract co-sponsors. EPA Administrator Bill Reilly issued a memorandum establishing an agency-wide advisory committee to address Great Lakes concerns. I saw a growing ground swell of support for the Great Lakes, and for a while, I thought their time had finally arrived.

But now, just one year after those field hearings, I'm getting the sense that little of importance has really happened. I know that some important research efforts have continued, and that some limited progress has been made on achieving the goals of the Water Quality Agreement. A few Remedial Action Plans are moving forward. EPA has initiated an effort to develop consistent water quality standards for all the Great Lakes states. But in general, it's business as usual. We've done little to reduce the continuing flow of toxics into the Great Lakes, and we've done even less to cleanup the toxics which are there already. I can't help but believe that we need a greater sense of urgency—a greater national commitment to protecting the world's largest body of freshwater, and one of the world's most unique and complex ecosystems.

And I still think we will succeed. I'm frustrated by the slow pace, but I'm still optimistic. I believe that if government provides the leadership, the American people will support stronger measures to protect the Great Lakes, and will support higher funding levels for research and cleanup. Individuals, as well as industry, will do what needs to be done if we in government give them the opportunity.

In that vein, I commend Senator Levin for his dedication to restoring environmental quality in the Great Lakes. His leadership on this issue has been unrivaled in recent years. I've enjoyed the opportunity to work with him, and I believe that continued attention to the Great Lakes will eventually provide the benefits that we all await: abundant wildlife habitat, swimmable and fishable water in all portions of the Great Lakes, thriving toursim and commercial fishing industries in the region and an enviable quality of life in our Great Lakes communities.

Senator LEVIN. Thank you, Senator Kohl. Thank you for your tremendous participation in this effort to improve the Great Lakes and protect the Great Lakes. You have been really a leader. As you joined the Senate, you immediately moved into an area which needs your attention, and all of us in the Great Lakes region—indeed, in the country—are very much in your debt for doing so.

Let me note that yesterday the Senate Environment and Public Works Committee unanimously endorsed the legislation which Senator Kohl referred to, which I introduced along with him and Senator Glenn and others, to re-energize the Federal Great Lakes programs. That legislation, which is called the Great Lakes Critical Programs Act, is now Title IV of Senate bill 1178, the Coastal Protection Act, which was approved by the Committee and will shortly be sent to the full Senate for action.

This title will establish timetables and deadlines for key Great Lakes cleanup programs, will require the EPA to improve Great Lakes oil spill prevention and response capabilities, and will increase the authorization for EPA's Great Lakes office from about $16 million to $25 million. The hearing today does not specifically relate to that legislation, which is in front of a different committee.

Rather, this hearing today is an oversight hearing on EPA's Great Lakes programs. However, since we tried to fix some of the problems that we will be discussing today in that legislation which was approved yesterday by the Senate Committee, we will also be referring to it today, and I thought everybody would want to know its status.

Senator LEVIN. Our first panel today is made up of Gordon Durnil and Davie Fulton. These two gentlemen are the United States and Canadian Co-Chairs of the IJC. The IJC, as you know, oversees United States and Canadian compliance with the Great Lakes Water Quality Agreement, among other functions. It reports on progress, and it provides advice on how we can protect the Great Lakes.

I believe this is the first time that the IJC has ever appeared before a Senate body, and we are delighted with your willingness to appear to discuss your work, which is very important work. We commend you on it, and thank you for being here this morning.

Mr. Durnil.

TESTIMONY OF HON. GORDON K. DURNIL, CHAIRMAN, UNITED STATES SECTION, INTERNATIONAL JOINT COMMISSION, AND HON. E. DAVIE FULTON, CHAIRMAN, CANADIAN SECTION, INTERNATIONAL JOINT COMMISSION [1]

Mr. DURNIL. Thank you, Mr. Chairman. I appreciate your comments, the comments of Senator Kohl and Senator Glenn, and the dedication of the Great Lakes Senators to this great North American resource.

Senator LEVIN. Your entire statement, by the way, will be made part of the record. It would be appreciated if you might summarize it in any way possible.

Mr. DURNIL. Thank you.

I am Gordon Durnil. I am the Chairman of the U.S. Section of the Commission. My colleague, E. Davie Fulton, is the Chairman of the Canadian Section of the Commission.

For a little background on the Commission, it was created by a treaty in 1909 between the United States and Canada. The purpose of the treaty, the overall purpose, is to resolve binational problems and hopefully to prevent new binational problems from occurring. We have had a long history of success in doing that in a peaceful and unitary method. We are a unitary body, and we try to act as one body as opposed to representing the views of one country over the other country. We operate by consensus and have had an 80-year record of doing that.

The Commission serves in a dual capacity. As a quasijudicial body, it has jurisdiction over matters affecting the levels and flows of boundary waters all across the border. It also acts as an advisory body in investigating those matters referred to us by the Federal Governments.

In 1970, the Commission issued a report on the pollution of the lower lakes. At that time, people were declaring that Lake Erie was a dead lake, as was mentioned here. However, the Commission identified water quality objectives which, if met, would enable both countries to fulfill their mutual obligations under the treaty. The Commission recommended that these objectives be formally adopted by the two countries and that the United States and Canada enter into agreement on programs and measures to be taken in order to achieve them. It was also recommended that the two countries develop compatible and coordinated programs, in concert with Provincial and State governments, to control pollution of the lakes from phosphorous, pesticides, toxic and hazardous materials, and other pollutants. As a result of this report, the United States and Canada signed the Great Lakes Water Quality Agreement in 1972 that has been mentioned, along with the amendments in 1978 and the protocol in 1987.

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[1] See p. 56 for the joint statement of Mr. Durnil and Mr. Fulton.

These agreements have led to a substantial increase in the Commission's Great Lakes work. The Commission is charged with monitoring progress being made by our two countries in meeting the purpose and the general and specific objectives of the agreement. Indeed, the 1978 agreement requires the Commission to report to the Federal, State and Provincial governments no less frequently than biennially concerning progress toward the achievement of agreement general and specific objectives. In mid-April, the Commission issued its Fifth Biennial Report. The Commission used unusually strong language in its report in an attempt to forcefully communicate what we perceive to be the seriousness of the threat and the need for all segments of society to contribute to solutions. We pointed out that despite the significance of the Great Lakes and our collective rhetoric to restore and enhance them, we as a society continue to mortgage our future by poisoning, suffocating, and otherwise threatening the Great Lakes. Further, we concluded that what our society has failed to realize is that what we are doing to the Great Lakes, we are doing to ourselves and to our children.

In the report, we concluded, among other things, that based on available data—on the reports of our Science Advisory Board and other sources—the health of our children is threatened as a result of our exposure to persistent toxic substances, even at very low ambient levels, and it would be imprudent not to take immediate action. The data we examined including findings, as mentioned, that 16 Great Lakes wildlife species near the top of the food web had suffered reproductive problems or declines in populations and the consumption of certain Great Lakes fish pose a threat to women of child-bearing age, who passed these toxic substances on to their offspring. The Commission also encouraged additional research to determine the precise magnitude of the threat.

Mr. Chairman, I would like to point out that this appearance is quite an unusual undertaking for the Commission. Being a binational organization and working by consensus as we do, we have as a general matter avoided commenting on the specifics of legislative proposals on either side of the boundary, either at the Federal or jurisdictional level. But the Commission sees a need to make legislation compatible with the agreement as being so important to implementation, we decided to appear here today. And I am quite sure this is the first time that both Chairmen of the two countries have appeared before a legislative body.

It is now my pleasure to introduce to the Committee the Chairman of the Canadian Section of the Commission, the Honorable E. Davie Fulton. Chairman Fulton is one of Canada's most accomplished and respected public figures. He served as a member of Parliament for 21 years, and during that time served as Federal Minister of Justice and Attorney General of Canada, was the Chairman of the Canadian Delegation which negotiated the Columbia River Treaty with the United States, and was also Canada's Minister of Public Works. In addition to those Federal positions, Mr. Fulton was for 8 years Judge of the Supreme Court of British Columbia. Chairman Fulton will now review for you additional highlights of our Fifth Biennial Report.

Chairman Fulton.

Senator LEVIN. Thank you, Mr. Durnil.

Mr. Fulton, welcome.

Mr. FULTON. Thank you, Mr. Chairman.

I want to echo fully Chairman Durnil's words as to the pleasure of being here this morning, the significance of the opportunity to appear before this illustrious body, and to share with you in discussion of the urgency of effective action on the Great Lakes ecosystem.

Indeed, the concerns expressed to you by Chairman Durnil made it important, in our view, to recommend to the Governments of the United States and Canada, as we did in our Fifth Biennial Report:

That they review and strengthen Great Lakes fish consumption advisories and re-evaluate stocking programs for those fish which also carry advisories for human consumption;

That they strengthen the principle of reverse onus in regulatory policies and programs by mandating the pre-testing of new chemicals to determine their potential harm to the environment or human health, prior to approval for production and use—in other words, the onus to be on the prospective producer to show that they do not harm the environment before a permit is given;

That they devise and implement legislation, standards, and other regulatory measures to give enforceable effect to the principles and objectives of the Great Lakes Water Quality Agreement on a basin-wide basis, and at all levels of government;

To assess and report on the extent to which the 11 critical pollutants mentioned are used, stored, and released into the Great Lakes Basin ecosystem by non-point rural and urban sources and the measures that have been and will be taken to prevent their further release into the lakes, and report on the extent to which discharges of these pollutants have been explicitly considered in discharge permits to give assurance that no such discharges are permitted;

To designate Lake Superior as a demonstration area for zero discharge by providing that no point source discharges are allowed of any persistent toxic substances, based, of course, on the purpose and objectives of the Great Lakes Water Quality Agreement;

Incorporate the Great Lakes ecosystem as a priority topic in existing school curricula throughout the basin and beyond, to ensure that our children understand the importance of a healthy Great Lakes ecosystem to our future, which is, of course, their future.

An equally important recommendation in this Fifth Biennial Report is that local governments be fully informed as to their potential contribution toward achieving agreement objectives, and that those governments accept responsibility to assist in its implementation.

In making these recommendations, the Commission urged in its report that new and extended levels of coordination and cooperation be initiated among all levels of Government, industry, non-governmental organizations, and the public to ensure that necessary actions are taken to protect the health of ourselves and our children. We noted that because the problems are societal in nature, Government alone cannot be expected to do everything required to eliminate the threat to human health and the environment.

Indeed, we feel that the Governments of the United States and Canada deserve very high praise for having entered into the Water Quality Agreements which are considered to be models of international cooperation. I know we are concerned about implementation, but we do note that the intent is there. I just mentioned that Government alone should not and cannot be expected to carry the full burden of agreement implementation. The problems associated with the lakes have taken generations to produce. In many respects, they are a consequence of the way we lead our day-to-day lives. In that sense, every individual in the Great Lakes basin has a role to play in implementing the agreement. We also recognize, however, and emphasize, that the agreement is a commitment undertaken by our respective Federal Governments and that in many important ways they must be at the forefront of initiatives to realize its fulfillment.

One avenue that we mentioned—and I would like to emphasize—one avenue available to the Governments is to ensure that legislation, standards, and other regulatory measures are tied specifically to agreement purposes and objectives. In fact, the Commission in its Fifth Biennial Report suggested 3 specific approaches that Governments could take in this regard. In addition to the previously mentioned recommendations that the parties and all levels of government, including, again, local authorities, cooperate to develop and implement appropriate legislation, standards and/or other regulatory measures that will give enforceable effect to the principles and objectives of the agreement on a basin-wide basis, these recommendations include:

First, that additional review and coordination measures be put into effect to ensure that other legislation and/or regulations presently in place that affect matters relevant to the Great Lakes environment—and those pieces of legislation to be enacted in the future—that none of them are inconsistent with agreement objectives; and

Second, that the measures devised pursuant to the foregoing recommendation include provisions for initiation, implementation, and coordination of actions at all levels of Government to enforce the enacted laws and/or regulations.

Those are the two things which we emphasize are necessary, a network of legislation, and measures to coordinate and enforce that legislation and apply those standards in accordance with the agreement objectives.

It is our hope that legislation can be successfully enacted by all levels of Government which would track very closely the Commission's observations and concerns found in our Fifth Biennial Report. Such legislation would include making adherence to the agreement an end point in the work of Government agencies, improved accountability of various agencies involved in agreement-related work, and the need to promote a better understanding of the effects of toxic pollutants on the Great Lakes ecosystem and the food chain in the Great Lakes, including the implications of such effects on human health. This latter point is an important one. We are now confronted with the knowledge that living organisms in the Great Lakes basin are not only vulnerable to persistent toxic chemicals because of their carcinogenic and mutagenic effects, but other more subtle disease and dysfunctionality outcomes, some of which were referred to earlier—deformities, metabolic changes, behavioral and hormonal changes, and immunosuppression.

The Commission also pointed out that if Remedial Action Plans, another area of emphasis in our report, are to be effectively implemented, they may have to be incorporated into domestic legislation.

The Commission in its report spoke very strongly of the need to take immediate action to prevent releases of persistent toxic contaminants to the Great Lakes-St. Lawrence River basin ecosystem, of ways to assist people in avoiding their exposure to persistent toxic contaminants, and the need for programs to remediate areas degraded by the presence of persistent toxic contaminants. To summarize it, prevention, avoidance and remediation, those are the key words of our Fifth Biennial Report. The Commission, therefore, is very supportive and appreciative of the session you have convened today as it encourages discussion of a number of issues developed in that report. We appreciate again this opportunity to participate.

Perhaps I might now be permitted to call on Chairman Durnil for some closing remarks.

Mr. Durnil. Very briefly. We are hopeful that hearings such as these will result in an expedited effort to remediate what the Commission considers to be a continuing threat to all elements of the ecosystem, including our own health as humans and that of our children posed by the presence of persistent toxic contaminants in the Great Lakes basin.

The legislation that you have just mentioned, Senator Levin, that you have sponsored, and Senator Kohl and Senator Glenn, has among its purposes several which track very closely the Commission's observations and concerns found in our Fifth Biennial Report. We congratulate you for your hearing and for your interest.

My final remarks are related to the significance of the resource of the Great Lakes, and you have expressed those in almost the exact words that I had so I will bypass those.

Thank you very much.

Senator Levin. Thank you very much, both of you, for your leadership as well as your presence here today.

Mr. Fulton, you made reference to the joint report that I also referred to which was issued by the Conservation Foundation and by the Institute for Research on Public Policy on the effects of pollutants on Great Lakes wildlife and possible effects on human health. What was your reaction or the reaction of the Commission when you received that joint report? Were you surprised, for instance, at the cumulative effect on wildlife that that report disclosed?

Mr. **Fulton**. Yes, we were surprised and, of course, concerned at this evidence, mounting evidence, of the actual state of the lakes. It is easy to be critical, but nevertheless one has been appreciative of the efforts being made by Governments to deal with the problem. And to find that those efforts had to such an extent not been totally successful, far from totally successful, was a matter of great concern.

We were also concerned because of the implication, the inescapable implication which further study and consideration, the conclusion to which that brings us, that these things were happening in wildlife, fish and surface, and birds, that their implications for human health are inescapable and devastatingly serious.

Mr. **Durnil**. If I may, Mr. Chairman, surprise, I am not sure that "surprise" is the right word. Our Science Advisory Board had given us these words in 1989, earlier than that, that "Although human data are limited, it is likely that exposed human populations behave in a similar way to exposed wildlife populations. This phenomenon exists because we share similar ancestries and evolutionary histories. We are exposed to the same toxic chemicals. We accumulate the same chemicals in our bodies, and toxic chemicals often have similar mechanisms of action in humans and wildlife. On this basis, it is reasonable to presume that toxic chemical exposures are adversely affecting human health. Although the effects may not be life threatening at the personal level, it may have a significant effect on the health of our children at the community and population levels."

So it is relatively new information, but our Science Advisory Board was coming along about the same time, and there is coordination and cooperation between the Conservation Foundation and our Science Advisory Board, and our Commission. And the Conservation Foundation and the Canadian IRPP briefed us, the whole Commission, on the report prior to its publication.

Senator **Levin**. Chairman Durnil, something that you said struck me. You said that what we are doing to the Great Lakes, we are doing to ourselves and to our children. And it is along that line that I believe that you, the IJC, suggested that we designate Lake Superior as a demonstration area to try to virtually eliminate persistent toxins that are going into Great Lakes waters. It is that vision of yours that we should try to protect ourselves and our children—and that is the issue when we talk about protecting the Great Lakes—that I believe drove you to make that proposal at the IJC.

I am wondering if you could give us a little more detail about that proposal relative to Lake Superior.

Mr. **Durnil**. What we thought was important in line with Annex 12 of the agreement was to advocate the zero discharge of something somewhere and at some time specific to see whether or not we can do that. There is a lot of debate always about what virtual elimination means and what zero discharge means. We would like to avoid that. We would like to just see whether or not point source toxic contaminants entering a lake could be stopped completely somewhere.

Now, we recognize, as we say point source, that a vast majority of the contaminants entering Lake Superior enter through the air. We are talking about point source. We were trying to elicit from the Governments the same questions that you as Governments are asking back of us, I suppose. But the hope would be that some in industry, along with Governments, would attempt to produce their product without the side effect of toxic chemicals being introduced into the lakes. Most of the discussion so far this morning has been on cleaning up. Hopefully, we can get into some discussion, as this is, on stopping the flow of toxics into the lakes.

Mr. FULTON. Could I add to that? I would echo what Chairman Durnil said as to the thinking behind that recommendation, to see just exactly what it involved in preventing point source discharge totally. But we also decided that in order to assist, we will be convening two roundtable discussions, one on zero discharge and one on virtual elimination, this summer and fall. Attending these will be representatives from Governments, from public interest groups, business and industry. We hope by involving the public again as well, we can get forward with a test of what it needs, what we have to do to produce the zero discharge and virtual elimination objectives in the agreement.

Senator LEVIN. Mr. Fulton, I understand that Canada has recently increased its funding for the International Joint Commission. Is that true? Has there been an additional appropriation of $300,000 by Canada to the Joint Commission?

Mr. FULTON. Well, that I think was made necessary largely by the Levels Reference Study.

Senator LEVIN. By the what?

Mr. FULTON. The Levels Reference Study, fluctuating levels reference. We are very appreciative of that increase, but we are still not luxuriously equipped.

Senator LEVIN. Is there supposed to be a U.S. match on that, Mr. Durnil?

Mr. DURNIL. The Government of Canada has provided two individuals, two person years for 2 years, to the regional office, and about $200,000, so your $300,000 there probably is correct. The Levels Reference is another matter that is going on that also has that. But, yes, you are correct. The Government of Canada has provided two more individuals to the regional office. The United States has not. Hopefully, we are going to be into a heavier flow of Remedial Action Plans being submitted to us, and it would be significant to have more individuals working on that process at the regional office.

Senator LEVIN. Is the United States supposed to match that under the agreement?

Mr. DURNIL. Under the agreement, it is a 50-50 situation.

Senator LEVIN. So we should also be adding the same number of staffers?

Mr. DURNIL. That would be very helpful, yes.

Senator LEVIN. But is it also the understanding in the agreement?

Mr. DURNIL. Yes.

Senator LEVIN. Pardon?

Mr. **Durnil**. Yes, that is true. There are ways—sometimes the United States pays for everything in a project. Sometimes Canada pays for everything in a project. Hopefully, at the end of the fiscal years, which are different, that we end up 50-50, and we try very hard to do that. But, yes, Canada has provided two persons and the United States has not, and it would be helpful to have them.

Mr. **Fulton**. Senator, I am sorry. I have been somewhat corrected in that it has been pointed out to me that the $300,000 was following the conclusion of the protocol, the 1987 protocol. That was provided to us for that purpose. So we had an additional responsibility.

Mr. **Durnil**. The exchange rate sometimes works in the U.S. favor. At the moment it is not. It is closing up.

Senator **Levin**. Thank you.

Senator Heinz?

Senator **Heinz**. Mr. Chairman, I would like to submit a statement for the record. Thank you very much.

Senator **Levin**. We thank you, and thank you for your interest and your participation, your being here.

OPENING STATEMENT OF SENATOR HEINZ

Senator **Heinz**. Mr. Chairman, I just want to make one observation, if I may. I am delighted to have our two witnesses. I commend you, Mr. Chairman. As I suspect you well know, the Great Lakes are the largest body of freshwater on earth and are an irreplaceable resource. We have monumental and growing problems about which I fear we have become very complacent.

I remember some years ago, back when I was in the House of Representatives, Lake Erie, which is the only piece of the Great Lakes that directly abuts on Pennsylvania, was considered dead. We implemented a very stringent, if incomplete, pollution control regime at that time, and Lake Erie has come back considerably. Therefore, people think that we have solved a lot of the problems. We have solved some of the problems, but the contaminated sediments continue to accumulate—in Lake Erie in particular, but other lakes in general.

There are new biological hazards, the zebra mussels, for example, are a new kind of threat. Our research is sharper. We are learning, as we have been reminded here today, about the mutagenic threats that are more subtle and much less obvious than kills and classic contamination. There are some 1,000 chemicals that have been identified in the Great Lakes. We know a lot of them are toxic and mutagenic, and the Commission performs a truly inestimable service by making sure that the United States and Canada work together. What their message is today is that it may not be enough just to have the Commission continue to do its fine work if we in Congress do not pay some care and attention to it.

I want to thank Mr. Fulton and Mr. Durnil for their testimony this morning.

[The prepared statement of Senator Heinz follows:]

PREPARED STATEMENT OF SENATOR HEINZ

Mr. Chairman, I thank you for holding today's hearing to examine actions taken by the Federal government to protect one of this nation's most valuable natural resources, the Great Lakes. The Great Lakes Water Quality Agreement (GLWQA) between the United States and Canada represents a dedicated environmental commitment to protecting and improving the largest surface, freshwater supply on Earth.

A recent report endorsed by the Northeast-Midwest Institute stated that tests have identified over 1,000 chemicals in the Great Lakes, many of them toxic. Contaminated sediments, of particular concern to shallow Lake Erie, and increasing nonpoint sources of pollution underscore the need for an all-encompassing ecosystem approach to the Great Lakes problems such as the GLWQA.

We have had some success in cleaning-up the Great Lakes since the implementation of the GLWQA in 1972. When I was in the House of Representatives, Lake Erie was considered dead. Now, after the implementation of pollution control measures, the lake is making a comeback. Unfortunately, it is beginning to look like for every step forward we take, new problems push us two steps back. Today, in addition to man-made pollutants, the Great Lakes are challenged by another serious problem, the infestation of zebra mussels. Already limited resources will now have to be stretched even further in order to combat this new "crisis in the making."

The zebra mussels started becoming a problem for the Great Lake habitat four years ago and pose a severe environmental and economic dilemma to the Lakes. Responding to this urgent need, I was an original cosponsor of the "Non-indigenous Aquatic Nuisance Act." It is my hope that this initiative will compliment other activities now in place to improve the quality of the Great Lakes.

I look forward to the testimony of today's witnesses and to working with this subcommittee on improving the quality of the Great Lakes.

Senator LEVIN. Thank you, Senator Heinz. Your reference to Lake Erie and a cleanup program for it reminds me of a visit that I paid, I think the first time I ever came to the Senate, about 15 years ago, perhaps 20 years ago now——

Senator HEINZ. You have certainly have a lot of seniority in the Senate if you came here that long ago.

Senator LEVIN. I came to visit here as a witness in support of legislation to reduce the level of phosphates in detergents because we had been killing Lake Erie particularly with phosphates. We had passed an ordinance in Detroit which I had sponsored, which everybody kind of laughed at because it was just one city trying to control phosphates going into the whole lake system, and one city by itself cannot do it. It was going to take all of us. But we thought it might lead to State action and then possibly to Federal action.

I remember Jennings Randolph chairing a hearing that I testified in front of in support of a Federal bill to limit phosphates to 8.7 percent, as I remember. That bill did finally pass, and we did, in fact, reduce the level of phosphates going into the Lakes.

Senator HEINZ. That bill was critical. The word for the state in which Lake Erie found itself 20 years ago was "eutrifaction." It was saturated with organics like phosphates.

Senator LEVIN. When I used the word "eutrification" in my testimony, as a matter of fact, my people who were with me were amazed that I used a word that large, that I even knew what it meant!

Senator HEINZ. I am not sure that I know what it means, but I remember your using it. [Laughter.]

Mr. Chairman, quite seriously, that initiative is something for which you not only deserve a lot of credit, but it kicked off having a major impact, and all of us are grateful to you for that.

Senator LEVIN. Thank you, Senator Heinz.

Senator Kohl?

Senator KOHL. Thank you.

Gentlemen, I would like to ask you about the Remedial Action Plans. As we know, all the Remedial Action Plan documents need to go before the IJC before they are finalized. Can you give us some indication as to how many RAP's are currently before the IJC for review?

Mr. DURNIL. Yes. We have 18 that have been submitted to us of the 42 areas that are concerned. Thirteen have been reviewed. Of those 13 that have been reviewed by the IJC, three of them have passed Phase 1 standards. We understand that there are a number, about nine, from Canada that are about ready to be submitted. I assume there are several more from the U.S. I know Milwaukee's is due in 1991, I think in the summer.

We anticipate, hopefully, a flood of them coming in, but we don't know.

Senator KOHL. Are you sufficiently well staffed to handle the influx that we expect and hope will occur?

Mr. DURNIL. Well, the easy answer to that is no, obviously, and our regional directors sitting back here want me to say no. But we have set priorities for the Commission, and we have limited those priorities down to toxic chemicals, the virtual elimination of toxic chemicals, to the review of Remedial Action Plans, to the state of the lakes, and then some other areas. But those three are the prime ones. Hopefully whatever it takes for us to get that job done, we will get it done. But the two more persons obviously would be helpful.

Senator KOHL. We have talked about those two additional people now on several occasions here. Apparently, you have said—I want to repeat what you are saying—that those two additional people are people that you do need.

Mr. DURNIL. Yes.

Senator KOHL. For which there is, what, no funding at the present time?

Mr. DURNIL. Well, I think it is rather there are no slots open or whatever that might be. We operate through the State Department, through their personnel, and the slots evidently aren't available under the current budgetary situation. But if they did become available, those people would be very helpful.

Senator KOHL. Mr. Durnil and Mr. Fulton, I was pleased to hear that you generally support legislation introduced by Senators Levin, Glenn, and myself—the Great Lakes Critical Programs Act. Apparently, we must compel the United States Government to comply with the Water Quality Agreement, but there are other problems as well. A report issued last year by GAO indicated that only one of every three IJC recommendations under the agreement has been implemented by the United States. In fact, the Government fails to even respond in writing as to actions taken on the recommendations.

Senator Glenn pointed this out in his opening statement. I would like to ask how this has hampered your ability to effect progress on the goals of the agreement.

Mr. DURNIL. I would respond that in reading the GAO report, I think it is one out of three major recommendations. I am not sure how we arrive at "major." Fifty-two percent of the recommendations, I think the report says, have been acted on, and 66 percent have been commented on. Now, whether that is a good record or bad record, I don't know. I would think that if half of the recommendations of a binational committee were acted upon by two separate Governments, that that may be good or—I don't know.

I don't think it has hampered our activity. In our Fifth Biennial Report that we have just issued, the last recommendation was that the Governments, the parties, respond back to us if they are accepting our recommendations, or if they are rejecting our recommendations would they please tell us why so we won't continue making the same ones if their reasons are adequate. And our conversations have indicated that that will happen.

Mr. FULTON. I might say it would be interesting indeed and encouraging to us to see what you are going to say to your Government because you may be interested to know that I think not more than 2 weeks before we came down here, we received from our Minister of External Affairs, the channel through whom we communicate with our Government, we received from him the official Government reply to our Fourth Biennial Report. Our Fifth Biennial Report was issued, as you know, in April of this year.

Senator KOHL. Gentlemen, the GAO report notes that public involvement in IJC activities has been minor, but I have heard that you are trying to correct that problem, and I understand that your most recent biennial meeting successfully involved the public in a very constructive manner.

Might you comment on how you plan to further increase public participation, which of course is so important in this cleanup process?

Mr. FULTON. I should say we have two aspects of public involvement. One is the educational process, and we don't wish to assume the role of educators in any sense in competition with State and other jurisdictional authorities, but we want to encourage the education not only of the public generally, but of our schoolchildren particularly, in Great Lakes and environmental problems. That is one program; we are intending to have a teleconference on that subject early this fall, or anyway, later this year, and other roundtable conferences on education generally.

The other aspect is the involvement of the public in the Commission and its board's processes, and we are giving active consideration to that. We have not come up with a final answer yet as to, for instance, whether the board should be requested or required to open certain meetings to the public, but we are giving active consideration to that sort of process. And we are also undertaking and planning a series of roundtable conferences and of task force work on specific aspects of the whole thing, in which we would involve the public as members of those task forces.

Mr. DURNIL. At our biennial meeting in Hamilton, we had 800–900 people there from all around the Basin. We told them we would hear whatever they had to say to us for however long that took, and it took until midnight or 1:00 in the morning, and 2 full days and nights of letting steam off, actually, and making ourselves available to the public.

We then met with representatives of various groups that were there, Greenpeace, Great Lakes United, whatever it might be, in a roundtable in Toronto to discuss how to have further public interaction.

We have passed a policy that our boards control—Niagara, St. Lawrence, whatever it might be—who just perform a control function and don't perform a public policy function, that they have at least one open meeting a year so that they can at least explain to the public what it is that they do, and the public can tell them what is on their mind.

We are very conscious of increasing the public involvement. We are struggling with how best to do that, to be honest with you.

Senator KOHL. One other question before you leave. You two fellows are probably as experienced, knowledgeable and have as much wisdom as anybody in the United States or in Canada on the Great Lakes, their importance, and how we are progressing or not progressing, what is happening and what is not happening. So you must have an opinion. Could you explain how we are doing in a way that is understandable to us?

Mr. FULTON. I would say we're not doing anything like as well as we should be, and that there is cause for real concern at the lack of progress. There has been progress. Reference was made to the clearing up of Lake Erie. It was cleared of phosphates and eutrophication, but now we have knowledge and increasing knowledge of all these other toxic substances, which are—I don't want to exaggerate—which are certainly pouring into the Great Lakes in totally unacceptable quantities.

So that we have cause for real concern—not to say that no action has been taken, but rather to say that the Great Lakes Water Quality Agreement is the basis upon which the matter can be approached effectively, let us see it applied, turned into effective action, so that its principles and purposes are realized.

We feel there is urgent need for that.

Mr. DURNIL. I would disclaim the knowledge and the wisdom—Val Adamkus, the gentleman sitting behind me here, has more knowledge in the tip of a finger than I will have for a long time—but in 1912, the first reference the Commission had on the Great Lakes, the Commission report indicated that the condition of the Great Lakes was perilous and disgraceful. So here we are, with a whole lot more knowledge; there are a lot of things that need to be considered, and the Conservation Foundation and IRRP have called those to light, that the biological considerations for permits, the bio-accumulation effect that is going on, should be considered in the permitting.

We need to—in my mind as a lawyer and as a politician—as we are talking about the cleanup and how many hundreds of billions of dollars this cleanup is going to take, we have to turn the faucet off or at least turn it down to the degree that we can turn it down to stop the flow of toxic chemicals into the Lakes, and then see what the potential for recovery is.

I am not saying don't continue the plans to clean it up, but let's see what we can do about——

Senator KOHL. I don't mean to press you, but how are we doing, Mr. Durnil?

Mr. DURNIL. How are we doing? I think there has been great effort by EPA and by Environment Canada and by others with the limited resources, and there is new knowledge. If we had all the knowledge and all the money in the world, I'd say we are not doing very well.

Senator KOHL. We are not doing very well.

Thank you, Mr. Chairman.

Senator LEVIN. Thank you, Senator Kohl.

Just one quick question, Mr. Durnil, on the Remedial Action Plan numbers that you used, just to clarify that. You have indicated that 18 of them have been submitted to the IJC, 13 reviewed, and only three have been passed. Of the 18 submitted, is that both from the United States and Canada?

Mr. DURNIL. Yes. The majority of those are from the U.S. The majority of Canada is yet to come.

Senator LEVIN. Do you know what the breakdown is on that, by chance?

Mr. DURNIL. No. I know that one of those three that has passed is from Canada. The first 10 were 9 from Michigan and one from Wisconsin.

Senator LEVIN. Okay. So that of the three that have passed, that is the total number that have been approved, two of those are from the U.S. and one from Canada?

Mr. DURNIL. I believe that's correct.

Senator LEVIN. And when you say there are 18 that have been submitted, do you count Stage One and Stage Two Remedial Action Plans for the same toxic hotspot as two RAPs or one RAP?

Mr. DURNIL. There have been no phase 2.

Senator LEVIN. No phase 2 RAPs at all? Okay.

The Lake Erie history does show that Government action can make a difference, and you two gentlemen are a part of that Government action which can make a difference. We appreciate your activity on the Commission, your chairmanship, your leadership and are pleased that you came here today.

Thank you so much.

Mr. DURNIL. Thank you so much.

Mr. FULTON. Thank you.

Senator LEVIN. Our next witness is Henry Habicht, who is the Deputy Administrator at the Environmental Protection Agency. Since April, he has been head of a newly expanded Great Lakes Advisory Committee within the EPA. We want to welcome you, Mr. Habicht, to the Committee. You can proceed. Mr. Adamkus, an old friend, is with you.

TESTIMONY OF F. HENRY HABICHT II, DEPUTY ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY,[1] ACCOMPANIED BY VALDUS V. ADAMKUS, PROGRAM MANAGER, EPA GREAT LAKES NATIONAL PROGRAM OFFICE

Mr. HABICHT. Thank you, Mr. Chairman.

As you have indicated, you know Val Adamkus, who is our Regional Administrator in Chicago and also the National Program Manager for their Great Lakes Program.

Mr. Chairman, you have a prepared testimony from me and written answers to a number of questions that the Committee propounded, and with your leave I will submit those for the record and just provide a few personal observations.

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[1] See p. 70 for Mr. Habicht's prepared statement.

Senator LEVIN. The entire statement will be made part of the record. Thank you.

Mr. HABICHT. Thank you very much.

I would like to just spend a few minutes sharing my thoughts and observations after a few months of being exposed with increasing intensity to the issues surrounding the Great Lakes. I want to talk about where we are, where we intend to go over the next year, and Bill Reilly's and my vision and sense of direction for the Great Lakes Program.

We very much appreciate your interest and leadership in this area, Mr. Chairman and Senator Kohl. We heard quite a bit, and we can only underscore the statements that have been made, about the uniqueness of the Great Lakes as an ecosystem. It is important, it is of seminal importance as a fresh water source, serving 42 million people.

It is particularly special to me, Mr. Chairman, because I spent all of my formative childhood years on or near both the Illinois and Michigan shores of Lake Michigan. I have a personal appreciation for the value and the beauty of the Great Lakes.

It is a critically important ecosystem, and it is a very damaged ecosystem. We should recognize the progress that has been made, and we have heard some discussion of that today; in areas like phosphorous loadings, many point sources are being effectively addressed, but no one is cheering, yet, and it is appropriate that no one is cheering. I think we need to recognize that Government and people working together can make a difference. We have very significant problems that remain, many that have been mentioned—contaminated sediments, fish contamination, food web problems, and a range of other problems with the ecosystem. We banned DDT, and it is still in the fish.

In very much the same way that the environmental protection field is evolving dramatically in this year of the 20th anniversary of both the First Earth Day and the establishment of EPA, we at EPA are moving too. EPA, working with Congress is moving from the focus on control of large, more obvious sources of pollution, the large point sources, the kinds of problems such as a burning Cuyahoga River and the visible problems with Lake Erie, to much more complicated questions about the interrelationship between human activity and natural systems.

Recently on a panel someone asked me what I thought was the number one environmental problem facing our society. I said that in many ways the number one problem that faces us is compartmentalization. The fact that the environment has not been a central consideration in the development of financial plans and policy over the past century or so, and in the same way on a smaller scale, EPA is subdivided and compartmentalized in ways that make us less effective in dealing with environmental problems. One of the things that Bill Reilly and I are trying to do throughout the Agency is develop a strategic plan that will allow us to take a multi-media approach to environmental problems.

We believe, as you have already noted, that the Great Lakes provides an ideal opportunity to move toward our vision of comprehensive ecosystem environmental management—that is, making every decision with a good account for the big picture, for the interrelationship among all the environmental problems, whether they are air, water, or waste.

The focus of a multi-media approach to environmental management has to be prevention. It has to be based on good science. The orientation has to be toward pollution prevention in the first place and doing so in a process that involves all interested parties from grassroots groups through Government to industry. Particularly in the Great Lakes, I think the grassroots groups in the environmental community with whom I have met are particularly effective and constructive.

I have to say, after having spent a few months working on this, that we have dedicated people working very hard, but the progress has not been what we would like with the Great Lakes Program. I think we have a good foundation, and in the coming months we intend to build extensively on that through the Great Lakes Advisory Committee which, as you have noted, I am now chairing.

I think we have built on the excellent relationship we have with Canada. I have met with my counterpart, Len Good, from Environment Canada, on a number of occasions to talk about plans for the Great Lakes. I think we have developed a good working relationship with the States in developing the very complicated Remedial Action Plans, we have identified the major research priorities and data needs, and we have started to develop work on them.

We have also learned a great deal from our cooperative work with the States and with other agencies in areas such as Green Bay, with the mass balance modelling work that is being done there. We think this effort in particular will be instructive for the entire Great Lakes system. Other examples of cooperative effort include the work that has been done on the Rouge River, the implementation of the Niagara River/Lake Ontario toxics management plan, and the preparation of Lakewide Area Management Plans, are just a number of examples of where we are learning a lot about how to approach this problem on a systemwide basis.

I talked earlier about the problem of compartmentalization. I think at EPA we are making a major push to change the way that we operate as an agency internally. And, as I indicated, the Great Lakes is going to be a cornerstone of our effort to take a multimedia approach.

We think that in the early going it is important to have the involvement of what we call "the 12th floor," the Deputy Administrator and the Administrator, in making sure that this happens most effectively. In chairing the Great Lakes Advisory Committee I am going to be meeting over the course of the summer with each of our program and regional representatives that have an interest in this and to make sure that we are mobilizing all the resources that we have, not just the resources within the Great Lakes Program, but the resources around the Agency that can contribute to the solution as effectively as possible.

Some of the goals that we have set for this group include preventing pollution, as I have already indicated—both point sources of toxics as well as nonpoint source runoff. It is important that we be working on both fronts and that we not look just at carcinogens, but all kinds of toxics and pollutants.

We are working on a major new initiative with the Canadians, a pollution prevention strategy for the Great Lakes, that we are very excited about and intend to push forward with.

Another goal is to assess and abate the most significant risks that we find. We cannot clean up every hot spot immediately, as you well know and have observed, but we need to be sure we understand where the significant areas of risk are and move on those as well as to work with the Corps of Engineers, the private sector and the States to make sure this happens and that we use the best possible technologies.

Third and very important, we have to be sure we are getting as much as we can get out of existing programs. I don't think we are yet, and I think we can get more. Through Region V and our other regions along the Great Lakes, we are stepping up our Water Quality Act implementation—the NPDES program. We are moving aggressively on the pulp and paper industry to deal with toxics from that industry; and, we should have finalized very soon stormwater regulations that will have an impact on at least several dozen municipalities discharging into the Great Lakes. We are using section 106 of the Clean Water Act and our section 319 nonpoint source grant money to help with an integrated strategy.

In addition, I think the new Clean Air Act, as you well know, is going to have a very significant impact on reducing toxic loadings in the Lakes because of the air toxics controls and some of the other provisions in the new Clean Air Act that we expect to move through the Congress sometime this year.

Finally, we have to develop a long-term strategy that is based on good science and an investment in the best possible science. This includes building on our toxic release inventory data, building our geographic information systems, and factoring appropriate knowledge into development of the lakewide management process. Most importantly, we also want make use of one of our newest and most exciting areas of research, our Environmental Monitoring and Assessment Program (EMAP) in our Office of Research and Development, the EMAP program, which will be a multi-agency effort. And finally, we want to really understand the interrelationships among human, terrestrial and aquatic ecosystems, and to understand and develop indicators for the health of ecosystems. The Great Lakes will be a focal point for this kind of effort.

It is a big undertaking, Mr. Chairman. We have to consult closely with you, with our friends in Canada, the States, with all citizens' groups, and with the IJC. I would just add, in particular that I think we have been communicating well with the IJC, but we intend to make sure that we communicate in writing responses to all of their recommendations. I have talked to the co-chairs of the IJC about enhanced communication between our organizations.

Finally, I have asked the Great Lakes Advisory Committee to propose priority activities for the next 2 years that will describe how those activities will contribute to the goal of the overall health of the Great Lakes and how they will maximize the use of all of our multi-media resources. I am going to meet in July with the GLAC to go over these options.

Mr. Chairman, as you said yourself, we are at the cutting edge of a cultural change in environmental protection. Bill Reilly and I want the Great Lakes to be a flagship and a laboratory from which we can all learn about true multi-media and prevention-oriented environmental protection. We pledge to mobilize more resources from around the Agency effectively in this area in the years ahead, and we intend to stay in close touch with you and the Committee and work closely with you as we continue to move on this problem.

Thank you very much.

Senator LEVIN. Mr. Habicht, thank you so much.

We have put up a chart which identifies some of the programs that we are going to be discussing, and summarizes the lack of progress on most of them.[1] I am afraid that presents a pretty sad picture, but we are going to be going through them or at least most of them.

First I want to ask you about the Lake Michigan Plan, which is a Lakewide Management Plan. There was a promise that you would have a draft ready for public viewing by July of 1990, and it is now almost July of 1990, still June, but we understand that there is not a word of that Lake Michigan Plan that is on paper.

The letter to the Subcommittee which we have just received now states that there is going to be a new deadline, a new delay for the Lake Michigan draft, and it is not going to be until July of 1991 before we have that draft.

What is the reason for that delay?

Mr. HABICHT. Mr. Chairman, I have been learning more about the status of this and other important initiatives in the program over the last few months, and we are going to be talking specifically about the Lake Michigan Plan when I meet with the Great Lakes Advisory Committee in July.

The reason there have been these delays obviously is that first and foremost it is an enormously complex undertaking and the identification of priority areas of activity among all the interested parties has been a challenging task. So, in part it is a resource issue; in part, it is just the complexity of the entire activity.

What I am given to understand as a constructive approach to this is that we build a Lake Michigan Plan by dealing with multimedia plans beginning with the hotspots; that we will use the Green Bay mass balance modelling effort as a guide to us to begin to look at hotspots first and then build that into a Lakewide Management Plan.

I think it is important—and this is a personal view, and I need to get more deeply into it—to establish a framework. We certainly are not going to be able to come up with a comprehensive plan quickly. We need to have a framework so we know we are able to identify the top priorities for the Lake, but then we need to focus detailed planning activity on the hotspots and build in the Remedial Action Plan efforts.

Senator LEVIN. I'm afraid that that was the same rhetoric that we heard last year, the need for a "framework;" I think it is literally the same word which was used.

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[1] See p. 55.

Mr. HABICHT. I have been learning about this for a few months. I suppose it is problematical that it has been a year since your last hearing, and I don't have any winning excuses for that except to say that we are getting into this, we are working with the people in the program, and it is an enormously complicated task. The Lake Michigan plan is one in which I know the Committee has high expectations, and we intend to make sure that we build an effective plan.

The framework is simply to make sure that we are concentrating our resources where they are going to do the most good from the standpoint of environmental risk. It would be nice to build a comprehensive plan that covers every square inch of the lake, but by doing that we may be taking resources away from more urgent areas of risk.

As I say, I am going to get concrete recommendations and I hope we can accelerate our schedule. I will know in July whether we will be able to do that.

Senator LEVIN. You mean you will know in July whether or not we will get this plan before July of next year?

Mr. HABICHT. That's right—whether there can be deliverables—it may be short of a complete plan, but start to have deliverables that will build this plan and give you an idea of where we are going with it before next summer, because it is important to Bill Reilly and me to see what the elements of a long-term strategy for Lake Michigan are much sooner than next summer.

Senator LEVIN. I'll tell you what my fear is, that we are going to be sitting here a year from now, and we'll have a chart up like that which will say there was a 1990 commitment of a July 1991 plan, and now you are asking for another year delay.

That's what we want to avoid with these oversight hearings, these hearings that oversee the way in which these agencies function, and in this case the EPA.

Will you let us know after the July meeting what the deadline is for the Lake Michigan Plan, as to whether or not it is July 1991 or whether you can speed that up?

Mr. HABICHT. Absolutely. In fact, I was going to say that the most important thing for us to do—and it is important to both Bill Reilly and me—is to communicate more frequently than we have in the past with the IJC and with this Committee.

I think it is particularly unfortunate for all of us when a year passes and there has been very little interplay between us. What we want to do is to give you regular status reports during this period, because we are not going to solve everything in a year or all at once, so we want to show you the progress that has been made. And I certainly don't want to be here next June and tell you we need another year.

Senator LEVIN. We are not going to solve everything all at once, and we are not going to solve everything in a year, but I am afraid we are not going to solve anything unless we really press forward and set some deadlines for ourselves.

I was particularly troubled when I read that you had opposed deadlines for a number of these programs. And we'll come to that in a moment, but I do think that we've got to hold your feet to the fire, and that the way to do that is with deadlines. Otherwise it just seems to me you've got vague plans, but no real timetable to meet them which you can guide yourselves by.

Let me give you another example of where I think there has been weak implementation. That is on the funding of these Lakewide Management Plans. You imply that you need more funds to produce these and that other programs have a higher priority, and you mentioned, I believe, the Remedial Action Plans in that regard.

We made a commitment to these management plans by agreement with Canada, so this is not some vague commitment. This is something that we have put into an agreement with our neighbor. And I am just wondering, if we need more funds to produce these plans so that we can protect our lakes, why EPA is not asking for the funding to carry out those plans? Why do you have to say, well, the Remedial Action Plans have a higher priority than the Lakewide Management Plans, and therefore we are going to have to give the Remedial Action Plan effort more money, and that means less money for the Lakewide Management Plans. Why not ask for what you need from the Office of Management and Budget particularly when we have a commitment to do that, an agreement with Canada?

Mr. HABICHT. We take that agreement very seriously, Mr. Chairman. This summer we will identify just what funds we do need. During this time in the budget cycle, we will be focusing intensely on not only the resources we need in the program but also other programs in the Agency—our waste, air, water programs and our pesticides programs. We will identify resource needs and talk to OMB about those needs.

Senator LEVIN. Prior to identifying those resource needs, why then would you have opposed the increase in the authorization for the Great Lakes Office?

Mr. HABICHT. With regard to the bill that has just been marked up quite simply because we have not finished our review of what our resource needs are. We do not have a basis yet, although I expect we soon will, for making judgments about exactly what we need. And when we don't know exactly what we need in this kind of budget climate, we generally oppose authorizations. But we will work to identify what those needs are.

Senator LEVIN. You are able to say, then, that the EPA needs more funds to do the Lakewide Management Plans, but you are not yet sure of exactly how much more you need. Is that a fair summary?

Mr. HABICHT. I think that is a fair summary. One of the ways we may be able to defray a lot of these needs—I don't know whether it will be all or not—will be by mobilizing resources from other parts of the Agency. As you well know, much of what we do is done outside the Great Lakes Program Office in terms of much of the research, cleanup, and the prevention.

So we are going to look at what resources we have around the Agency to actually apply to this. And one other thing I might just add—I think there is sort of an intimate interrelationship between the Remedial Action Plans and the Lakewide Plans. Much like the way we deal with hazardous waste in this country. We are trying to develop a national waste strategy for the United States but we need to be sure that we are moving on significant contaminated hazardous waste sites so that they don't get any worse. There is both a process of learning more about the characteristics of the contamination which must take place as well as efforts toward abating risk. I think they are interrelated, and I think that we want to make sure that everything we do contributes to developing long-term plans.

Senator LEVIN. Another thing which was covered in the agreement with Canada was the development of Remedial Action Plans for each of the 42 toxic hotspots in the Great Lakes. Last April, what we learned was that only one of the 42 Remedial Action Plans was finished; that only nine others had made it to the first milestone of the IJC review; that 32 had not made it even to the first milestone. And now it is more than a year later, and the numbers are equally bad. Still, we only have one Remedial Action Plan completed; none of the nine that underwent IJC review have been finalized; only four new Remedial Action Plans have gone to the IJC; and two-thirds of the plans that are required still have not even made it to the IJC review.

Your own chart[1] shows a decline in the number of Remedial Action Plans that have actually been sent to the IJC over the last 3 years. There were seven Remedial Action Plans that were sent in 1987, three in 1988 and two in 1989. What has taken so long?

Mr. HABICHT. Val Adamkus has been deeply involved in this and I will ask him in a minute to go into more detail. My sense as to what is involved in this is that like the Superfund program, where the States and local government have such an important involvement but do not have a lot of experience to build on so there is need for a time to identify priorities and approaches that make sense. The States need to find resources, and need to develop a capability to do this, and that has been happening in the Great Lakes.

We have submitted 13 Phase one plans to the IJC, and we have quite a few that are queued up to come out in the next year.

Val, do you want to add to that?

Senator LEVIN. How many are going to be coming out in the next year? Mr. Adamkus, do you have that number? What number do you expect will be getting to the IJC within the next year?

Mr. ADAMKUS. Actually, if our predictions and our strong will are accurate we want to see all of them submitted. I hope that we can report to you that the remaining plans will be submitted to the IJC.

Senator LEVIN. How many?

Mr. ADAMKUS. The rest of them.

Senator LEVIN. You are predicting that within one year, the rest of them?

Mr. ADAMKUS. We anticipate that the remaining plans will be submitted and I hope that we are going to be able to accomplish that goal. But it depends on a lot of things. As I indicated to you at the last meeting we had in Grand Rapids, I have to admit that we actually made a mistake in anticipating that we could leave it up to the States and that the States were going to produce the plans. That was our mistake, and that is probably where we lost most of our time.

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[1] See p. 148.

We are now moving more rapidly because EPA Region V assumed a great share of responsibility by providing additional support to the States. We are providing the oversight, and I believe we are going to do something to speed up the process although a lot of things will depend on resources.

Like it or not, I have to say that without support of the States, the States will not be capable of providing the kind of plan development that they need to do.

Senator LEVIN. My time on this round is up, but let me just complete that one line of questioning by asking you this. A year ago, I believe you said something similar, that you were going to get tough with the States, and that is the only way to do it. What specific steps have you taken to get tough with the States so that they will produce their share of these plans?

Mr. ADAMKUS. We have incorporated in our EPA regional water programs the requirements for the States, for each water plan which they are submitting and negotiating at the present time, that the RAP development will be part of that State initiative.

Senator LEVIN. Is that new in the last year?

Mr. ADAMKUS. Yes, sir.

Senator LEVIN. Okay, thank you.

Senator Kohl.

Senator KOHL. Thank you, Mr. Chairman.

Mr. Habicht, it is pretty clear I believe to people who are knowledgeable enough to understand what is happening—people in the movement around the Great Lakes in every State, balanced people, people of good judgment—that we've got a problem that we are not addressing, and that we are not getting anywhere in terms of making real progress, and that the kind of damage that is being done is irreversible and we are not moving the way we want to move.

I have heard you say the same thing this morning, and I don't think any of us doubt it. Are you responsible for seeing to it that we move ahead in a reasonably effective way? Is there somebody we can talk to who is prepared to say, "I will take the responsibility, and I will deliver"? Is that you?

Mr. HABICHT. I think you are looking at him.

Senator KOHL. It is you.

Mr. HABICHT. I have taken not only a personal interest, but also the charge to chair this advisory committee at least over the course of the next several months to make sure that whatever we need to do to get on track will be done, and to move forward. So I would be happy to stick my neck out and hold myself out as the contact.

Senator KOHL. I am very pleased to hear that because in any effective organization, whether it is public or private, somebody needs to say, "I will take that responsibility, and I will deliver—God willing, I will do it." It doesn't happen too often in Government that you find people who are prepared to say, "I will take the responsibility, and I will deliver."

Forget about yesterday. Tomorrow is all we are really talking about today. We look at what happened yesterday only to try and get something done tomorrow; yesterday is irretrievable. And it is very encouraging to me to have someone of your ability and of your senior status in a position to make a difference, to make the difference, and to say that with respect to the Great Lakes, "I will deliver."

Are you saying that?

Mr. **Habicht**. Gosh, let me rethink that. No, Senator Kohl, I am saying that. Obviously, in government, no one person can pull every lever and make everything happen that you would like to have happen. But, people do have to take responsibility. I think accountability is an extremely important concept in government, and by that I mean I will mobilize every resource we have and will keep you and the public advised of how we are doing.

As I say, we are moving into uncharted territory, and it is very hard to say exactly where we will be in a year. That is why it is important for us to set goals, to mobilize resources to get there, to have people accountable and to report regularly on how we are doing. And if we don't move as fast as we'd like to, we want to talk about why that is and figure out what resources and what new efforts we need to achieve our goals.

Senator **Kohl**. Senator Levin and I have great concern, as you can tell, about the Great Lakes. The Great Lakes are terribly important to everybody in this country but they become even more important when you represent a Great Lakes State. So what you are saying this morning in terms of tomorrow is very, very important to all of us who live near the Great Lakes. And I'm not going to go on with my questioning any further than this because I think you have said something very, very important.

To me, what you have said is that there will be no doubletalk, there will be no, "I'm sorry I didn't," and "It's this person's fault and that person's fault", as we often hear in private life and public life. You don't often find people who are willing to stand up and say, "I will take the responsibility and, God willing, I will get the job done, because we all understand what needs to be done."

So what I will do with your permission is just write you a letter from time to time, and stay in touch with you. And let us hope, very much in the public's behalf, that we can get the job done. And where there is something that we can do, whether it is Senator Levin, myself or Congress, I hope that we will have the kind of relationship where we can work together, so that we can really be proud of what we accomplish on the Great Lakes over the next 6 months, year, year and a half, 2 years, and then hopefully 5 and 10 and 15 years down the road. But we first have to do our job right now, and I am encouraged by what you have just said.

Mr. **Adamkus**. Senator Kohl, would you permit me to comment?

Senator **Kohl**. Yes.

Mr. **Adamkus**. In the long years of my involvement with the Great Lakes, let me say that this is the first time that we at the regional level, the working level, has received such a strong commitment by the top management of this agency to provide the tools for us to do the job. And at the same time, I can reassure you that I have the most dedicated staff I have ever met in my life, people who really want to see the Great Lakes improve and the job done.

Senator **Kohl**. So you also feel very positive about the near future.

Mr. **Adamkus**. Very much.

Senator **Kohl**. I am delighted to hear that.

Thank you, Mr. Chairman.

Senator LEVIN. Thank you, Senator Kohl.

We very much welcome the commitments, the promises, the rhetoric. They are very important. The intent is significant.

You will permit just a note of reality, however, because I am afraid I have heard it before. I think there is a greater seriousness now. I think your taking over your committee is particularly significant. So I too want to be forward-looking and not backward-looking, but I wouldn't be honest if I just simply said that that is adequate for me. Because while it is very important that you make these commitments and pledges—and I think Senator Kohl is correct in pointing out that that is truly the most significant thing you can do—it is also important that we learn from history that good intentions and good rhetoric and promises really are not enough. You need deadlines, and you need resources.

You yourself just said that you've got to set some goals for yourself. We have seen those goals set before but then simply passed over. Look at the chart. We've got goals set, and they are blown away; a year goes by, and nothing has happened.

So we think it is significant that we put some of these deadlines into law. Without them, I am just afraid this is going to be a repeat session.

So we are sorry that you oppose these deadlines. I am kind of surprised that you do given the fact that you agree that goals are important, but nonetheless I believe a majority of the Senate is going to want to establish some deadlines for these plans to be adopted, these programs to be put in operation—to continue to prod this effort. And I think you would probably agree that the Congress prodding agencies is a way of expressing public sentiment; that it is a way of saying to the agency and to ourselves that this is a higher priority than it has been given before. It is intended to be healthy and constructive, but it is also very bluntly intended to be a prod, a push, because that represents a public statement as to what people care about most.

Now, we've got limited resources, and I think you have acknowledged that we've got limited resources, including inadequate resources to complete the RAPs. Is that not correct, Mr. Adamkus? You have been looked to for comments on the RAPs. Is that not true?

Mr. ADAMKUS. Yes, sir. There is a great need for additional resources to provide help to the States actually developing those RAPs.

Senator LEVIN. Now, is your agency seeking those resources in its budget request?

Mr. ADAMKUS. This is going to be considered in our budget submittal.

Mr. HABICHT. Mr. Chairman, the Region has been quite aggressive, even in 1990, in looking at existing resources. For example, within Region V's Water Quality Program, not only some of the people but also some of the CWA Section 106 grant money and the Section 319 nonpoint source grant money are being used to help move this effort forward. We are looking for resources within the agency to do more. We haven't formulated a 1992 submittal, but we are certainly going to look at that as a part of this effort.

Mr. Chairman, if I might just add a comment about the deadlines issue because it is an important question, I understand the depth of feeling that prompts you to want to set deadlines.

Our view—and I think this is Bill Reilly's view as well—about statutory deadlines generally, and particularly in this area, is that they tend to make it more difficult for us to address the priority risks that we find as we move more deeply into a problem.

It is very hard to say at the very outset of a major environmental mobilization effort what we are going to find to be the most significant risk areas. As we get into a problem and learn more about it and develop a plan, we may find some areas that we hadn't previously anticipated need prompt action. Sometimes statutory deadlines, depending upon how they are structured—and we do want to set goals for ourselves—can have us be focusing on areas that may not be the top priority. We do have limited resources. The Great Lakes effort as a whole is certainly going to be a multi-billion-dollar effort, and we are not going to have all the money for it over the next couple of years. We need to be sure we have reasonable flexibility, and we have the kind of prod that is appropriate from the Congress. But we need reasonable flexibility as we learn more from efforts such as Green Bay, to push the resources into the places they will do the most good. That is our concern about deadlines.

Senator LEVIN. Well, the process may be new to you, but it is not new to us. We have been working on RAPs since 1984. So this is not the "outset." The trouble with not having deadlines and with this what you call flexibility is that it leads to mush. We have been going 6 years with promises, and now we have got to get some action. And one way to get action is to set some deadlines.

If those deadlines prove to be the wrong deadlines and need to be adjusted, you just come back and seek adjustment and explain why the deadline needs to be adjusted. But without them, I'm afraid we will just continue in the direction we are going, which is really a pretty sad story.

I take it you don't disagree with anything on that chart, factually?

Mr. HABICHT. I'm not sure. There is a Superfund site around the Kalamazoo River that has been included on the NPL.

Senator LEVIN. No; it is sitting on someone's desk.

Mr. HABICHT. It hasn't come out yet? Okay.

Senator LEVIN. We have been through this—Mr. Adamkus and I have been through this. We sat in a hearing room in Michigan, and we pressed EPA on this issue—how is this not decided? It is sitting on someone's desk. And we finally got the answer that came back: It is going to be approved. It has just been approved. I mean, it was a dramatic moment in a hearing, because I asked EPA to just go out and make a phone call—this was 14 months ago. It was literally a dramatic moment. We said, "Would you please go out—here's a quarter—call the office, find out where the darned thing is on someone's desk." And the answer came back that, number one, the call cost more than a quarter; but number 2, "It is going to be approved."

Well, now it is 14 months later, and we are confident it is going to be approved. Mr. Habicht, I must tell you I think it is going to be approved. I think it is still sitting on a desk, though, waiting for approval.

What is the problem?

Mr. HABICHT. Just two points. As I say, I am new to the Great Lakes process, but I'm not new to the environmental protection field and the Executive/Legislative relationship. I think that relationship has improved a lot in the last few years, which is a credit to both the Executive and the Legislative Branches. We will go back and look at your bill, and look at the deadlines in it to see if there are any constructive comments we can offer on what you are proposing. You need to have a sense for what our goals are, as well as some sense of our strong commitment.

I was very heartened to hear your sense of willingness to listen to us if this bill passes when we come back, and to talk about what we have learned, and, in an effective and fairly efficient process, take a look at those deadlines. We don't want to breach deadlines. As you know, we have hundreds of deadlines in our statutes.

The problem is that, when deadlines are set in individual statutes, cumulatively, they can't all be met. We are going to do the best we can. We don't want the public to think that we are failing because we are missing a lot of deadlines. This is very tough work. We need to interact with one another as we go through this process and make sure we are all able to work as effectively as possible.

So, certainly I very much welcome and commit to keep talking to you about how we are doing, deadlines or no deadlines.

Senator LEVIN. We are happy to talk to you about what the deadline is, but what we are determined to do is set deadlines after all these years. Otherwise time passes. Somebody else could be sitting in your spot a year from now, saying that he or she is new; someone could be sitting in these spots up here a year from now, saying they are new.

We have got to have some action on this. Just going to the Kalamazoo River, I think literally that is perhaps sitting on your desk.

Mr. HABICHT. There is a big stack on my desk, but I know that one is not there.

Senator LEVIN. Well, it is somewhere.

Mr. HABICHT. We'll find out.

Senator LEVIN. You know, as Yogi Berra once said—and everybody knows what he said, so I won't repeat it all over again—but it's deja vu all over again, because we had that commitment. That was the one thing you picked out of that chart. But is there anything on that chart that you believe is factually inaccurate?

Mr. HABICHT. No. Technically, it is factually accurate. Only 30 of the RAPs are United States RAPs.

Senator LEVIN. How many have been approved?

Mr. HABICHT Just one.

Senator LEVIN. We've had one RAP.

Mr. HABICHT. Okay, but that is also a sign of the difficulty of this process. I mean there are a lot of players and a lot of complicated issues. I think that the situation is going to improve. I think we'll have 12 more RAPS in the next year, which means that out of 30 RAPS we should have at least 25 submitted. I don't know what issues are involved in the earlier-submitted RAPs, but I hope they can be resolved fairly quickly.

So again, you are factually accurate. There are a lot of things that need to be done. The important point is that you've got commitment here; I think you have commitment like you've never had before from the Agency, and we do want to be accountable.

Senator **Levin**. Senator Kohl.

Senator **Kohl**. Just a comment to what we have said here this morning and how constructive it has been. One of the things that I have seen since I have been here is that oftentimes, certainly not always, hearings are hearings; people come and people go, and not much is said in terms of establishing an agenda that can be implemented. And a lot of times that happens because people come to hearings with a view toward just getting through them, whether it be Senators or witnesses. I don't think that has happened this morning.

I think Senator Levin and I have come here determined to try and move the process forward by virtue of the hearing, and I think you fellows have come here this morning with the same goal in mind. And I think we have heard you say that you are prepared to take responsibility to see to it that we do the things that we need to do, as Senator Levin has brought up and we have discussed.

And again, I think that is very positive. I've got a hunch this situation may turn out to be somewhat different from what we have come to expect from EPA. I think you really mean to take responsibility and get the job done. And if you really do, you should not be, in my opinion, opposed to our bill. As Senator Levin said, what do we do if you are gone, and the fellow next year says the same thing? If you really want to move the process forward, a willingness to accept deadlines and meet them is part of moving the process forward; isn't that true? I mean, is there anything so different about this situation? It seems to me that if I were in your position, I'd want deadlines so that I could move people to get their jobs done on time. Why would you want to evade that?

Now, you don't have to answer that in great detail. But is your agency so different from every other agency with regard to the way in which people behave and get their jobs done?

Anyway, I think this has been a positive meeting, and I know my office and Senator Levin's office are going to follow up on it to help the process to move forward.

Mr. **Habicht**. Thank you very much for your comments, Senator. Just a quick comment to put all this into context. We certainly did not come into this hearing intending to squeak by and wipe our brows and say we're off the hook until next year. This is going to be a very active year. You know the range of issues that is on our agenda, and it is fair to say that this one ranks very, very high. In the scheme of things, when we are ultimately looking at how we spend our time and what our agency priorities are, we will try to fit all these priorities together better. This is a very high priority, and so, however it ultimately works out as we develop a strategic view of our role, this one is going to be a very important piece of it.

Mr. **Adamkus**. Mr. Chairman, I would like to say a few words on RAPs for the record. The RAPs are not moving as fast as we might like but it is not because the EPA disapproves them. That's the first thing. You should know that the International Joint Commission has that privilege and responsibility.

Second, seven RAPs from one State have been submitted, but because of the honest professional disagreement about the levels of cleanups, they are not yet approved, and they are not moving. The technical/professional obstacles are definitely slowing our RAP process. I just want to make clear that this is not merely because U.S. EPA doesn't want to approve them or rejects them.

Senator LEVIN. It is also true, I believe, that you have indicated that an adequate job cannot be done on RAPs and LMPs with present resources.

Mr. ADAMKUS. Correct.

Senator LEVIN. And that means that you are going to have to be more of an advocate for those resources inside the Administration.

On the oil spill issue, which I believe you mentioned, Mr. Habicht, a couple of months ago in response to a Subcommittee request for more data, the Coast Guard released some very current data documenting spills of oil and toxic chemicals in the Great Lakes. The data showed that there was almost triple the number of spills during the 1980s than were previously reported—5,000 instead of 1,800—and for the first time, we know where these spills took place. We sent a copy of this data to the EPA.

It is partly in response to that new data that I ask you this question about a spill prevention program. Last year, the EPA promised to send new regulations strengthening the spill prevention program to the OMB in September of 1989. Based on that promise, we wrote to the OMB, and they in September of 1989 said they would promptly review those regs on spill prevention and control. But now it is 9 months later, and the regs still have not made it out of the EPA.

So what's going on with those regs?

Mr. HABICHT. Well, after our exchange on Kalamazoo, I hesitate to jump too deeply into this one except to say that I have asked about it. I am given the sense that they are close, but we don't have to belabor that. I will take a personal interest in getting them out because I think that can be done shortly. I don't know what has held them up this long. We are working on our entire regulatory process at the agency to speed it up internally.

Senator LEVIN. The last indication we had is that they are not so close, that it is September of 1991.

Mr. HABICHT. Oh, that's for final promulgation. I mean getting them out of the door for comment.

Senator LEVIN. Over to OMB.

Mr. HABICHT. Yes.

Senator LEVIN. So that is close.

Mr. HABICHT. Yes.

Senator LEVIN. Okay. An EPA report advocated increasing its inspections—these are inspections of oil storage facilities—and recommended that the inspections be increased nationally to 6,500. But then we found that the EPA's inspections of oil facilities have actually fallen from 3,500 to 1,000. So while the number of spills has gone up—and really gone up dramatically—during the 1980's, the number of inspections has gone down. And by the way, there is a direct correlation between the number of inspections and the number of spills. It is one of the most fascinating statistical correlations I have seen because you can actually see graphically the direct connection between inspections and spills. So the more your inspections go down, the greater the number of spills.

Why isn't EPA willing to increase its inspections to the recommended level of 6,500? Is this just resources?

Mr. HABICHT. Well, nationally, we are working on looking at all the resources that are available, State and local as well as Federal, to make sure that we've got the right kind of prevention program. In the Great Lakes in particular, we have significantly stepped up our inspection activity, and Val Adamkus can fill you in on that.

Mr. ADAMKUS. Actually, in the Basin, we have planned, and we believe this is adequate at the present time, to make 90 inspections, and 70 of them already are completed. So we are really taking inspections seriously, and we are going to complete them. If there is a need, we are going to increase them.

Senator LEVIN. You'll be increasing the inspections?

Mr. ADAMKUS. Yes, within the region.

Senator LEVIN. This year?

Mr. ADAMKUS. Yes, if we find that there is the need—if there is a need for it, we are definitely going to do that because we are ahead of our projected inspection number by now.

Senator LEVIN. When you say "if there is a need"—is there some question about that?

Mr. ADAMKUS. It is difficult to respond, but I believe that we are re-evaluating the reports, and if we have any indication that there is a need for an increase or additional inspections, we definitely are going to do them.

Senator LEVIN. When are you going to make that judgment?

Mr. ADAMKUS. Any time. It is a continuous process, Senator.

Senator LEVIN. Well, not the annual level of inspections. Can you tell us what your decision will be on increasing that annual level? As I indicated, it has dropped significantly now during the 1980's from 3,500 to 1,000 in 1989. Can you tell us what the level of inspections will be for 1990? Are you able to give us a flavor for that?

Mr. ADAMKUS. We are right now developing the work plans for the next year, so I could not commit myself to a number.

Mr. HABICHT. But you said you have set a target, Val, of 90 for 1990, and that number might actually be higher because of resources——

Mr. ADAMKUS. Yes.

Mr. HABICHT. We are in the process of preparing an operating plan for 1991.

Senator LEVIN. What is your plan for 1990?

Mr. HABICHT. It calls for 90 inspections within Region V; I am not sure what the number is for the other regions around the Lakes, but we can get that for you.

Senator LEVIN. And when will you have your plan for 1991 complete?

Mr. HABICHT. Well, it has to be complete by the end of the fiscal year, which is the end of September. We hope that it can be completed before that.

Senator LEVIN. Will you let this Committee know the number of inspections that you are planning for the next fiscal year when you have completed that plan specifically?

Mr. HABICHT. We'll do that.

Senator LEVIN. Okay. For one moment now, back to the Kalamazoo River issue. When is the final list, the so-called "Update 9," going to be sent to the Federal Register, the Superfund list that contains that Kalamazoo River site?

Mr. HABICHT. I can supply that for the record.

Senator LEVIN. It is on someone's desk, and it has been a year and a half since that commitment was made. Do you have any idea whether it is going to be a week, a month, or what it is?

Mr. HABICHT. Well, as I indicated earlier, I was given to understand that it was through the process. So unless there is something I'm not aware of, it should be imminent, but I will find out and let you know.

Senator LEVIN. Senator Kohl.

Senator KOHL. Thank you, Senator Levin.

I have a question I'd like to ask about the Green Bay Mass Balance Study which has been going on for several years through a cooperative effort between the EPA and the Sea Grant Institute.

Do you know when that project will be completed? Is there a deadline for completion of that project that you are aware of?

Mr. HABICHT. In fiscal year 1992, we expect to have a completed product from the project.

Senator KOHL. Fiscal year 1992.

Mr. HABICHT. Yes.

Senator KOHL. All right. Scientists expect that the Mass Balance Study will provide us with a wealth of information about the sources and status of pollutants in Green Bay. The Federal Government, as you know, has invested a lot of money in this monumental study. Has the EPA thought about what it will do with the results of that study? Are we going to put that information to good use? Any comment on that?

Mr. HABICHT. Oh, absolutely, Senator. We intend to use the results to help prepare the most effective plan for dealing with contamination in Green Bay, and to use the experience that we have gained from developing a mass balance model to apply to other areas where we are ready to move forward, such as in the Niagara River and Lake Ontario. We are moving forward with comparable kinds of studies, and we intend to merge our experience in Green Bay to deal with the other Great Lakes, like Lake Michigan.

Senator KOHL. All right. In connection with that, let me say that many scientists are concerned that the results of the study will not be assimilated and published once the study is finished. Will the EPA make an effort to release this information in a form which will be truly beneficial to interested people? Will the follow-up on this, which is very important, be published in book form in contrast to just data form? Can you give us some assurance, some sense of comfort that when the report gets finished, it will be put together in a fashion that can be understood, digested and assimilated by interested people?

Mr. HABICHT. Yes, I can more than give you comfort. As I said, we see this as a very important sort of laboratory and a very important effort that will apply beyond the Great Lakes. We are making the data available, as I understand it, to parties right now on a regular basis. In terms of putting it into a form that can be widely read and consumed, we intend to make it available and understandable to the public because we expect it will tell an important story.

Senator KOHL. Okay. One question on the Green Bay RAP which, as you know, is the one that has been completed. Have you given some thought to the purpose of the RAP, which is the implementation—obviously that's the point of it all? How do you imagine that is going to proceed, and what do you see as the problems, because that's really the guts of what the RAP is all about, to get an implementation program going. Would you just make a few comments on that?

Mr. HABICHT. Sure. Let me ask Val. Because of the work that is being done and the data that are being generated, I expect it will be a very well-informed implementation plan.

Mr. ADAMKUS. Definitely. This one will form a basis for the scientific, technical, and professional approaches to be used in developing the other RAPs and in checking out procedures for the way they are being developed.

Senator KOHL. Is the implementation of the Green Bay RAP going to be some kind of a model effort because this is the first one that has been done and perhaps the first one that will get implemented?

Mr. ADAMKUS. I wish, Senator, that would happen because I don't think that at the present time we know what resources will be involved or how much money will be needed to do the job. Overall, I am afraid that nobody has looked at the 42 areas of concern and knows how many billions of dollars will be needed to actually implement those plans.

Senator KOHL. All right. So let me see if I understand. Are you saying that the implementation of the Green Bay RAP, or any RAP for that matter, will depend on the resources that are available—and the availability of those resources is very uncertain at this time? Is that a fair statement?

Mr. ADAMKUS. Yes, you are right.

Senator KOHL. All right. But doesn't that also mean, then, that we are back at square one? Aren't we saying as to implementation of the RAPs that we don't know when or how because, among other things, we don't know if or how we are going to get the money? I mean, there is a huge question mark over this whole thing—or am I misunderstanding?

Mr. HABICHT. Well, it is a question mark. It is not quite the cloud that it would appear to be in the way you have described it because the RAPs are funded from a variety of sources. Funds come from the Federal government, as you know, as well as State governments, local governments, and industry. In this case, we have a very good working relationship with Wisconsin. Whenever we can, we will be going after responsible parties for funding.

So, while we don't know exactly what the total needs will be and we don't know what the various contributions to the contamination are, we have a lot of experience in putting these kinds of implementation plans together. We obviously are doing something similar under Superfund.

So, I think that while there is uncertainty, as there is with other areas of contamination in the environmental field, you ultimately have to look at the range of remedies and the risks and decide how far you need to go to protect public health and the environment. In that process, you must also identify sources of funding.

Mr. ADAMKUS. Senator, specifically on Green Bay, we are working closely with the State of Wisconsin. And, there are a lot of procedures involved, including permit issuance, control of the sources, and implementation of the plan. Resources will be actually looked for from the State as well as the Federal government.

Senator KOHL. Thank you, Mr. Chairman.

Senator LEVIN. Thank you, Senator Kohl.

Just a few more questions. First, going back to those regulations which were promised to strengthen the spill prevention and control program, I believe you indicated that they were just about ready to go to the OMB. That is really pretty much what was said I think 6 or 7 months ago. I am just wondering if you can't be a little firmer on that. You know I am into deadlines.

Mr. HABICHT. I know. Again I can supply that for the record unless somebody here knows more specifically.

Senator LEVIN. Can you tell us it will be June or July? Can somebody nod their head back there—I'll save the quarter if someone could just do that.

Mr. HABICHT. The people who are in charge of those regs are not with me here today. But we can find out right away, and I intend to. I have not been fully briefed on those regulations and that is why I can't be more informative. In getting ready for this hearing, I just found out that they were not finished. Often delays are for very good reason and often delays don't make any sense at all. We'll get you the information and get this one out.

Senator LEVIN. We have been told they have been ready—you say they are not finished yet—we have been told they have been ready for 9 months.

Mr. HABICHT. Well, the definition of "ready" is in the eye of the beholder. And I am not making excuses for it, but as I say, I have not been briefed on it, and I will let you know right away.

Senator LEVIN. I just want to talk about air toxics for a couple moments. In 1987, there was another commitment that was made in that Water Quality Agreement with Canada. The agreement was that we would expand the existing monitoring system for air toxics. That was 1987, and it was critical research for us in terms of what we have to do to protect the Great Lakes from air toxics.

I don't think anything has been done in terms of increasing the number of stations to measure air toxics since 1987 when we committed ourselves to expand that monitoring system.

We know now that there are going to be additional stations that will be operational in January of 1992, but why does it take so long? You made a promise in 1987 to expand that network, and now we are told it is going to be an additional year and a half before there is that expansion. Why can't we expedite that?

Mr. HABICHT. I think it is fair to say that it is being expedited now, but, as you know, these are enormously complex technical systems. I don't have an answer for you for the reason for the delay between 1987 and 1990, although I expect it has something to do with there being a lot of things on the plate and a need to prioritize. But these stations are going to be put on a fast track so we get the basic four or five master stations and 11 auxiliary stations that will be up and running.

Mr. ADAMKUS. Senator, if I can add, as you know, this is a Canada-U.S. integrated plan, and it so happens that tomorrow we are meeting in Toronto, and we are going to sign the agreement and commitment for the implementation plan.

Senator LEVIN. Let's talk about the resources again. The President's 1991 budget would cut Federal funding for Great Lakes programs by about $130 million, including a 7 percent reduction in the EPA's Great Lakes office. Now, what I do not understand is how it is that Mr. Reilly can say that he is going to redouble the EPA's Great Lakes commitment, which is what he said, that we must "redouble our existing efforts to protect and restore this vital resource." I believe he said that in October 1989. That is the rhetoric, but the budget request is a cut.

Mr. HABICHT. At least the direct Great Lakes budget was largely a level budget from 1990 to 1991. I think the short answer is that that the budget was really formulated in July of 1989, and now we have learned a lot more about what the program needs are, and the story will likely be different in 1992.

Senator LEVIN. So your next budget request you expect will show a significant increase requested of OMB?

Mr. HABICHT. Well, as I say, we are going to meet in July to talk about the budget, and you know very well how the process works. The budget represents a series of decisions that have to hang together, and we see the growing size of the deficit. There may be many good projects that do not make it through the process. But I think it is fair to say that whatever universe we have to work with given budget constraints and everything else, we intend to find and mobilize more resources, more effectively in 1992, in order to do a better job and to do the most we can with the resources we have in 1991 and then to do even better in 1992.

Senator LEVIN. Did you ask for a budget increase, do you know, for 1990?

Mr. HABICHT. I'd have to get back to you on that. I am not sure.[1]

Senator LEVIN. Would you let us know that, because again, intentions are very important, and they are sincere, but we have got to also have the actions that reflect those intentions. You are going to bring some new energy and commitment, and that is welcome, but we also have to have a follow-through in terms of actions and resources to reflect the good commitments.

We can't talk about redoubling efforts and cut the budget. There is a disconnect there. It is not being straight. The rhetoric is good—and welcome, by the way, I have got to tell you it is very welcome—and I think it is sincere, but unless it is followed up by actions and by resources, then it doesn't help much. In fact, it may hurt. It may have the effect of telling people we are doing something when we're really not unless actions follow.

So we would appreciate knowing what request was made last year, but more importantly, what request is made this year by the EPA for the Great Lakes programs of the OMB. That will be important information to us.

These are the major concerns we have talked about today. We have talked about the management plan for Lake Michigan, and in general the management plans for the Lakes which were committed to by agreement. We have talked about action plans for 42 hot spots and deadlines for them. On the spill prevention program—we've got a commitment out of you for a rapid action to get those regulations to the OMB. You will get us the time that that will be going to the OMB for our record.

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[1] See p. 187.

We have gotten a number of other assurances from you today on action, including the Superfund program, that includes the Kalamazoo River. You will let us know when that is going to go to the Federal Register as well.

We are very serious about protecting these resources, and I believe you are, too, and you bring to this new job a fresh commitment. And it needs it. The record here is a pretty sorry record. That chart is a pretty sorry picture.

Again, 5 years into the Remedial Action Plans, we've got one of 42 completed. We don't have the draft Lake Michigan Plan, which was promised by now. We've got regs delayed; we've got monitoring networks on toxics which are taking too long. We do have a demonstration project for sediment that is underway although that is apparently just beginning now; we know we are beginning to get some data.

Has the Great Lakes Advisory Committee held its first meeting, by the way?

Mr. HABICHT. The committee has been meeting to formulate this strategy. The entire group will be formally meeting in July.

Senator LEVIN. So that will be the first meeting of the advisory committee?

Mr. HABICHT. The committee has been working, but the first formal meeting will be in July.

Senator LEVIN. Is that a public meeting?

Mr. HABICHT. No. It is an internal EPA meeting.

Senator LEVIN. Do you keep minutes of those meetings?

Mr. HABICHT. Yes, we do.

Senator LEVIN. And are they made public? Would you share those minutes with us on whatever the appropriate basis is—I assume they are public minutes.

Mr. HABICHT. We'd be happy to look into that. Just to distinguish the GLAC from other groups, I would stress that it is an internal group to develop an internal agency strategy and in that regard it differs from the IJC or other organizations. We will be happy to keep you informed regarding what the GLAC is doing.

Senator LEVIN. Would you either send us the minutes of that meeting, or if for some reason you do not, will you let us know why they cannot be shared with this Committee, indeed with the public?

Mr. HABICHT. I'll be happy to do that.

Senator LEVIN. There are a number of other issues which I have not raised which are significant, including the Great Lakes Initiative, which is the setting of those water quality standards which are very, very important to us. Purely because of the time constraints that we are under, I will not raise that, but that is not to indicate that they are not significant to us.

We appreciate your coming here today. We are determined that the Government is going to do better, and that requires all of us to do better. Surely, it requires greater initiative on the part of the administrators of the programs for the Great Lakes. You have made those kinds of commitments here today, and we are going to try to get some of those commitments into law. And that is Congress' role as well as to help provide resources for these programs. But we wish you well on your new effort, and hope that again we won't be here a year from now with either you or somebody else, reviewing why we haven't succeeded, but that we can get together to celebrate some success.

Mr. HABICHT. Mr. Chairman, as long as we can keep talking openly and candidly the way we have today, I am sure we will all do well.

Senator LEVIN. Thank you.

Mr. HABICHT. Thank you.

Senator LEVIN. We work very closely with Mr. Adamkus, and we appreciate his efforts.

Mr. HABICHT. He's a good man.

Thank you, Mr. Chairman.

Senator LEVIN. Our next panel is made up of General Patin, who is the Commander of the North Central Division of the Corps of Engineers. He is accompanied by Colonel John Glass, who is Commander of the Detroit District of the North Central Division.

General Patin and Colonel Glass, we welcome you.

TESTIMONY OF BRIG. GEN. JUDE W.P. PATIN, COMMANDER, NORTH CENTRAL DIVISION, U.S. ARMY CORPS OF ENGINEERS,[1] ACCOMPANIED BY COL. JOHN GLASS, COMMANDER, DETROIT DISTRICT, NORTH CENTRAL DIVISION, AND JAN MILLER, ARCS COORDINATOR

General PATIN. Mr. Chairman, and members of the Subcommittee, my name is Brigadier General Jude Patin. I am Commander of the North Central Division of the Corps of Engineers.

Sir, it is my pleasure today to make this first appearance before your Committee, and with me from my division is Colonel Glass, the District Commander from Detroit, and also assisting is Mr. Jan Miller from my division, my ARCS coordinator.

Sir, as requested, our status report will present the environmental activities and initiative of the North Central Division related to the Great Lakes. I will describe some of the work we are doing for others, including support we are providing to the Environmental Protection Agency. I will conclude our report with some thoughts on whether additional environmental legislative authority is needed at this time.

First, sir, let us take a look at the region of responsibility of my North Central Division, which provides plentiful opportunities for us to perform an important environmental support mission.

As civil works responsibilities are set apart within the Corps by rivers, lakes and coastal basin rather than State boundaries, we are responsible for an area that contains three major drainage basins—the Great Lakes, the upper Mississippi River, and the Sousie-Red Rainy River.

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[1] See p. 85 for General Patin's prepared statement.

These areas include all or part of 12 States, 95 Congressional Districts, and over 1,900 miles of international borders. It is the home of 95 percent of the Nation's fresh surface water, where 22 percent of the Nation's income and 21 percent of its production is generated, and where we serve 20 percent of the U.S. population.

Two hundred and ninety million tons of cargo is transported annually on NCD's waterways. The Corps has evolved to become one of the leading agencies in environmental management and restoration. The Assistant Secretary of the Army for Civil Works, Mr. Robert Page, has taken an aggressive approach to making the Corps' technical and managerial expertise available for environmental programs. Lieutenant General Hatch, the Chief of Engineers, has directed the Corps to support the environmental initiative and to be leaders in caring for the environment.

The North Central Division fully supports these initiatives. Currently, we are trying to put our engineering design and construction capabilities to work on the Great Lakes environment. Given our recent successes with environmental programs and projects, we are confident that by working for others and with our partners, we can have a positive impact in solving Great Lakes environmental problems.

Corps involvement in environmental activities is conducted under what we call our Work for Others Program. In this program, Corps capabilities are utilized by other agencies on a reimbursable basis. We are pleased that our services can be put to such good use.

I will now address the questions raised in your letter of invitation to this hearing, with the exception of Great LEAP, the Great Lakes Environmental Action Program. At this time, I cannot comment further on that matter pending the introduction of legislation addressing Great LEAP and its review by the Administration.

I will begin my comments on your other questions by reviewing our plans and actions that have or will be taken to remediate contaminated sediments at Great Lakes sites.

You may be aware that the International Joint Commission has designated 42 areas of concern for impaired beneficial use due to water quality degradation. The Corps has authorized navigation projects in or adjacent to 28 of these areas of concern. The North Central Division participates in both the development and implementation of Remedial Action Plans through our navigation operations and maintenance responsibilities.

We recently participated in the development of Remedial Action Plans at the locations shown on this chart. Corps data collection, research, and operation and maintenance, dredging have been identified in several Remedial Action Plans as integral parts.

I will now report on our activities at the 3 harbors you reference in your letter of invitation.

We currently are not directly involved in the Superfund activities at the Sheboygan Harbor. At this site, the potential responsible party now is completing remediation demonstrations under EPA's supervision.

The Indiana Harbor and canal is an example of the environmental issues we are investigating. We are finalizing a report on alternatives for maintenance dredging and dredged material disposal. The project as described in the draft report would remove 3 million cubic yards of contaminated sediment dredged from Indiana Harbor and canal. We have made a significant effort to manage contaminated sediment at this project in the most cost-effective manner, including state-of-the-art research on the environmental impact of taking no action and the feasibility of innovative treatment technologies.

At Waukegan Harbor, Illinois, my Chicago District is currently reevaluating its draft plan for a confined disposal facility. Extensive coordination is ongoing regarding appropriate capacity for the facility and cost-sharing arrangements. In addition, we recently completed at EPA's request the final design review and oversight of the Waukegan Harbor site remediation by the responsible party. The remediation involves removing sediments contaminated with up to 100,000 parts per million of PCBs and the application of a thermal extraction treatment technology.

A significant environmental activity under our Work for Others Program is our participation in the EPA's Assessment and Remediation of Contaminated Sediments Program, commonly referred to as ARCS. The EPA authority is contained in Section 118 of the 1987 amendment to the Clean Water Act. Our Work for Others Program allows Corps' technical expertise to be used in support of other agencies' missions with the other agencies providing the funding. This approach allows optimum use of Federal resources and maintains clear lines of program responsibility. The Corps' support for the ARCS program was formalized with a memorandum of agreement in January of 1989 between the Department of the Army and the EPA.

The five Great Lakes sites designated in the Section 118 authority to be given priority consideration for study and demonstration are shown on this map.

The Corps' role includes participation on each of the six ARCS committees and work groups. The North Central Division and the Corps Waterways Experiment Station are also providing reviews of database for ARCS priority sites, conducting a literature review of sediment bioassays, and a review of treatment technologies. We have also gathered representative contaminated sediments from four of the five ARCS priority sites.

The Corps of Engineers is performing or coordinating bench scale tests on 10 treatment technologies with sediments from all of the sites. We are currently evaluating potential sites and technologies for pilot scale demonstrations and will prepare more detailed plans for three potential demonstrations for consideration of funding by EPA.

Increased Corps activities under the ARCS program is anticipated for fiscal years 1991 and 1992, with the implementation of pilot-scale demonstrations at one or more of the five priority sites. These pilot-scale demonstrations will likely utilize mobile treatment units and process a few hundred cubic yards of contaminated sediment at each demonstration site.

The Corps will develop concept plans for full-scale sediment remediation at the priority sites. The concept plans will include cost estimates and estimates of contaminant losses and will be used as examples for the application of ARCS studies and guidance to other areas of concern.

ARCS funding and time frame will not allow for the implementation of a full-scale demonstration of sediment remediation. It is estimated that the minimum size for a full-scale demonstration would be about 10,000 cubic yards and cost up to $5 million.

Mr. Chairman, before I conclude my report, let me take a moment to give you some thoughts on whether additional environmental legislative authority is needed.

No additional authority for environmental dredging in the Great Lakes is needed at this time. Section 108 of the Clean Water Act authorizes the Administrator of EPA to remove pollutants from the Great Lakes, and Section 115 authorizes the Administrator, acting through the Secretary of the Army, to remove and dispose of in-place pollutants from critical ports and harbor areas. While these authorities might not cover all possible pollutant situations in the Great Lakes, they do cover the vast majority of them. Moreover, it would be many years, given current budget realities, before any additional authority would be needed.

Mr. Chairman, that concludes our report, and I am now available to answer any questions.

Senator LEVIN. Thank you very much, General.

You have testified about what the Corps is doing to help the EPA conduct demonstrations of promising technologies to clean up certain contaminated sediments at five sites in the Great Lakes under the ARCS program. And you indicated that as part of that effort—and you had those five sites up there on the map—that as part of that effort, the Corps is overseeing "bench scale" demonstrations of 10 different technologies.

Could you go into that a bit?

General PATIN. Yes, sir. Bench-scale demonstrations are done in the laboratories with a small amount of sediment, less than a gallon. These tests are typically done in a batch reactor. The other styles of demonstration are the pilot, which involves maybe a dumptruck of material, and then the full-scale, which as I mentioned are very large.

Senator LEVIN. And what is going on now? Is any bench scale project going on now?

General PATIN. Yes, sir. The Corps has taken on as part of its work group responsibility the bench-scale testing of 10 technologies across those five sites.

Senator LEVIN. And is anything actually going on now?

General PATIN. Yes, sir. We are actually applying the technology on bench-scale to some of the materials from those sites.

Senator LEVIN. So these demonstrations are underway.

General PATIN. Yes, sir.

Senator Levin. And how many of the technologies are being actually demonstrated now, and how many are being planned to be demonstrated?

General PATIN. The Corps is actually testing 10.

Senator LEVIN. Okay, that is underway, all 10.

General PATIN. Yes, sir.

Senator LEVIN. Okay, that's all I need to know. Thanks.

You are going to propose, I understand, ARCS demonstration projects, full-scale projects.

General **Patin**. Yes, sir. We are participating as part of the ARCS work group, and we will be jointly making recommendation as to which of the sites we will use.

We are evaluating sites and technologies for ARCS, pilot-scale demonstrations. All five priority sites, and over 10 technologies are being considered. Later this summer, a number of the sites and the technology will be screened, and three potential pilot-scale demonstrations selected for more detailed planning, including a detailed cost estimate. These plans shall be completed in the first quarter of fiscal year 1991 to allow for final selection of a pilot-scale demonstration by EPA. The final preparation and implementation——

Senator **Levin**. That would be what, in 1991?

General **Patin**. Yes, sir.

Senator **Levin**. Would that be on-site demonstrations?

General **Patin**. Yes, sir. The final preparation and implementation of the pilot-scale demonstration should occur during fiscal year 1991–92.

Senator **Levin**. And are you on track for that?

General **Patin**. Yes, sir.

Senator **Levin**. You made reference to your statutory authority near the end of your statement, you said, "No additional authority for environmental dredging in the Great Lakes is needed at this time. Section 108 of the Clean Water Act authorizes the Administrator of EPA to remove pollutants from the Great Lakes, and Section 115 authorizes the Administrator, acting through the Secretary of the Army, to remove and dispose of in-place pollutants from critical port and harbor areas." Then you say, "While these authorities might not cover all possible pollutant situations in the Great Lakes, they do cover the vast majority of them." My question to you is have those authorities ever been used?

General **Patin**. They have not. The Corps is assisting with the ARCS program under Section 118. With regard to 108 and 115, we have received no requests for support under these authorities.

Senator **Levin**. So the authority for environmental dredging has not been exercised.

General **Patin**. Yes, sir.

Senator **Levin**. I take it you can conceive of situations where it is a heck of a lot cheaper for the Corps to exercise that authority if it were asked, while it is out there on-site for other purposes, than it would be for EPA to hire a contractor or to otherwise start from scratch.

General **Patin**. Yes, sir, that is highly possible.

Senator **Levin**. Would you be able to prepare for the record some comparisons as to how much it would cost you to do that kind of environmental dredging where you are otherwise there, for instance, deepening a harbor?

General **Patin**. Yes, sir.

Senator **Levin**. How much that relatively slight additional work would cost, compared to how much it would cost us to go out from scratch and——

General **Patin**. And mobilize, yes, sir.

Senator **Levin** [continuing]. Mobilize, as you put it, a contractor to do it.

General PATIN. Yes, sir. I will make an analysis of that and provide it to you for the record.[1]

Senator LEVIN. All right.

It may indeed be the only realistic way that we are going to do environmental dredging in terms of our fiscal resources. Is that not accurate?

General PATIN. Yes, sir, that could be a very accurate statement.

Senator LEVIN. Last September your office gave my staff some materials about its idea for a Great Lakes Environmental Action Program, or the Great LEAP, and you had a chart on that as well. One of the documents provided to us, dated September 21, stated that the Corps "successes with the Environmental Management Program on the Upper Mississippi River system provided us with the stimulus to propose the Great LEAP."

Could you just tell us briefly what that Mississippi effort was?

General PATIN. Yes. The Upper Mississippi Environmental Management Program has several parts, including habitat enhancement and monitoring of data on the Upper Mississippi River, as well as the construction of structures to improve the navigational channels. The essence is to make available improved habitat and to establish a program to monitor the effect of these habitat enhancements on the Upper Mississippi.

Senator LEVIN. Will the Great Lakes Environmental Action Program coordinate the environmental activities that are undertaken by your division? Now I gather they are done somewhat on a piecemeal basis in response to requests of EPA.

General PATIN. Sir, last summer, we had numerous meetings with the Great Lakes Office of the EPA and Fish and Wildlife, as well as the Great Lakes Commission. We have had briefings with numerous Congressional interests throughout the Basin and we have also met with the environmental resource agencies in the Great Lakes States. Our meetings have included county and municipal levels of Government and environmental interest groups. So we are managing those activities.

Senator LEVIN. General, Colonel and Mr. Miller, we thank all of you for coming by. Your presentation today was very helpful.

Thank you.

General PATIN. Thank you very much, sir.

Senator LEVIN. Our final witness is Dr. Michael Donahue, Executive Director of the Great Lakes Commission. The Commission represents the joint views of the 8 Great Lakes States, not just on the environment but also on economic, cultural, and recreation issues. It has done a very excellent job of organizing and energizing the region and promoting the cleanup of the Great Lakes.

Dr. Donahue, we welcome you.

TESTIMONY OF MICHAEL J. DONAHUE, PH.D, EXECUTIVE DIRECTOR, GREAT LAKES COMMISSION

Dr. DONAHUE. Thank you, Senator.

I will summarize my remarks very briefly and then submit a detailed statement for the record.[2]

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[1] See p. 219.

[2] See p. 90.

I am pleased to be here on behalf of the eight member States of the Great Lakes Commission to speak to the importance of current legislative, program and budget issues affecting the quality of the region's environment, the strength of its economy and the health and well-being of its citizenry.

In my remarks today, I want to focus primarily on the current status and future prospects of federally-funded programs for Great Lakes research, management and cleanup. And I am going to argue for a strengthened Federal-State partnership, a renewed and enhanced Federal presence in the Great Lakes, and legislative and program remedies for several issues and opportunities of paramount importance.

As requested, I hope to address the matter of the U.S. EPA role under the terms of the Water Quality Agreement, the status of the Remedial Action Plan process, the status of the Army Corps of Engineers proposed Great LEAP program, and finally the status of the zebra mussel infestation problem.

By way of background, I note that the Great Lakes Commission is an interstate agency, with members from the eight Great Lakes States; it is founded in State and Federal law, and its mandate is to represent the collective views of the Great Lakes States at the Federal and Congressional levels on matters of regional economic development, resource management and environmental protection.

Our members include Governors' appointees, State legislators and State department officials.

I want to speak very briefly to the issue of the Great Lakes and their role and stature at the national and international level as well as the regional and State level. I will not go through the long litany of impressive facts and figures that other speakers have presented to us today. I do want to mention that almost 990 billion gallons of water are withdrawn daily or used in strom to support residential, commercial, industrial and agricultural requirements of this Nation's heartland. That is about 26,000 gallons per resident per day.

Even though there are 65 trillion gallons of water in the Great Lakes system, funding for Federal agencies specific to Great Lakes programs averages out at less than $1 per resident, about the cost of a single gallon of bottled water. You can compare that to the 65 trillion gallons in the system.

We look at the Great Lakes management scenario as a partnership approach between the Federal Government and the States, and we believe it is indeed a matter of national and international concern.

There are a multitude of examples. Every law from the Northwest Ordinance of 1787 forward recognizes the international boundary created by the Great Lakes and assigns to the Federal Government the responsibility of managing it. The International Boundary Waters Treaty of 1909, the Merchant Marine Act Amendments of 1970, the Clean Water Act of 1987, the Great Lakes Water Quality Agreement of 1972 are all international agreements or Federal laws that recognize the Federal and international stature of the Great Lakes.

Even with the onset of new management challenges this decade, Federal funding for basic research, monitoring and enforcement programs to restore and protect the Great Lakes has declined 11 percent in real dollars over the last 10 fiscal years.

The partnership approach philosophy, we believe, needs to move from concept to application if we are to do our job to protect, preserve and wisely use this national/international resource.

With regard to the role of the U.S. EPA in Great Lakes Water Quality Agreement implementation, I would like to note that the Great Lakes National Program Office is the centerpiece of the U.S. Federal Government's commitment to the Great Lakes. We at the Commission, fully support the National Program Office's role under the agreement. We view the office as an appropriate institutional framework to address the unique requirements of the Great Lakes Region. It is a model center for coordinating EPA's Great Lakes presence, and due to its focus it is ideally suited to undertake and coordinate projects of both regional and national significance.

We have many concerns, though, and I could not express them more articulately than you have already. In particular, there is a concern among the member States that EPA and, in particular, the Great Lakes National Program Office needs to strengthen levels of coordination with the Great Lakes States in all areas under the agreement.

Second, we believe there is a need for EPA to clarify its role in the Remedial Action Plan and Lakewide Management Plan process.

Third, we believe that the States need additional support and guidance in the development and implementation of Remedial Action Plans.

Fourth, we believe that the Great Lakes Water Quality Initiative should be expedited under the purview of EPA to promote consistency in State water quality standards.

We at the Commission have articulated two specific statements of policy that we believe will address many of these concerns. The first statement relates to funding, the second to the level of U.S. EPA headquarters involvement, or lack thereof, in the Great Lakes.

As indicated earlier, the President's request for fiscal year 1991 constitutes a 7 percent cut from actual funds received in fiscal year 1990. This will have wide-ranging effects on Great Lakes National Program Office programs. In fact, even funding at the authorized level will leave many tasks unaccomplished. We believe that until this funding issue is resolved, concerns voiced by the States and the region cannot be effectively addressed.

We shared this view with six other governmental, citizen and private regional organizations in our presentation of a March 1990 white paper to Congress. We believe that funding levels for the U.S. EPA as suggested in the Great Lakes Critical Programs Act sponsored by Senators Levin, Kohl, Glenn and others are more in line with actual needs, and we support that legislation.

The second matter of concern I think gets to the heart of the discussions with the EPA representative today. We are concerned with the lack of accountability in implementing the Water Quality Agreement. I also note the General Accounting Office report that indicated that only one of every three recommendations under the agreement have been even addressed in any way, shape or form.

We believe that the existing U.S. Policy Committee which operates at the regional level under the auspices of EPA, needs to be formally established by the Federal administration and elevated in stature and mandate to include senior policy officials from the Great Lakes States and appropriate Federal agencies. We further believe that the U.S. EPA Administrator should serve as chair of this U.S. Policy Committee.

The Great Lakes Advisory Committee as discussed earlier today is a welcome development, but it is an internal EPA committee, and it does not address the needs under the Water Quality Agreement as far as the Great Lakes States are concerned.

Great Lakes National Program Office resources alone are not presently adequate for the task at hand. The Region V office can provide some degree of leadership, but it is only one of three regional offices addressing the Great Lakes. And we believe that this Nation's ability to meet obligations under the Water Quality Agreement will be severely and indefinitely compromised until we get direct U.S. EPA headquarters involvement in Great Lakes programs.

With respect to the status of Remedial Action Plans and steps that need to be taken, we at the Commission see the RAP process as a very positive development. It institutes a sense of much-needed accountability in that it is required to identify the responsible parties, a process for measuring the effectiveness of cleanup efforts and a time line to accomplish the goals. We also believe it provides an effective mechanism to address problems in the several binational Areas of Concern designated by the IJC.

We certainly share all the concerns mentioned earlier about the delays and procedural uncertainties that threaten to compromise the RAP process. It is a major problem and requires urgent attention.

I will not go through the host of recommendations presented in my written testimony other than to note that we fully support Federal legislation that would establish firm but realistic target dates for Remedial Action Plan design and implementation.

The question of who should pay, as presented earlier, is of great concern to the Great Lakes Commission as well. We believe that all the plans in the world are fine, but if there is no implementation strategy and the dollars to support it, Remedial Action Plans are going to do very little to get us to the objectives of the Water Quality Agreement.

With respect to the Great Lakes Environmental Action Program, General Patin indicated he would not be in a position to comment on the legislation, but I certainly am in a position to do so.

On November 15th of last year, the eight member States of the Great Lakes Commission unanimously and enthusiastically endorsed the Great LEAP program. We believe the magnitude of the Great Lakes cleanup task demands the use of any and all Federal resources, and we believe that the expansion of the Corps' authority is a sound idea that should be implemented with all due speed. We believe that this authority should indeed include an ability to conduct dredging for environmental remediation purposes in Great Lakes waters.

We at the Great Lakes Commission urge the Congress to pass legislation that will expand budgetary and geographic authority of the Corps to the extent needed to operationalize the Great LEAP. In so doing, we do recognize that the success of Great LEAP is going to depend upon the way the program is implemented and coordinated within the region. We believe, for example, that Great LEAP should be focused to the extent possible on the Water Quality Agreement and in particular Remedial Action Plan cleanup.

Second, we believe that Corps priorities for Great LEAP projects need to be consistent with priorities established through a regional forum that includes each of the 8 Great Lakes States, the U.S. EPA and other Federal agencies with a role and responsibility in Great Lakes management.

Third, we believe that a formal structure must be established to involve the Great Lakes States in every aspect of the process for evaluating, selecting and implementing prospective Great LEAP projects.

Finally, we want to make sure that appropriations to support Corps implementation of Great LEAP are adequate to the task and don't compromise other activities central to the Corps' mission or impinge upon funds required by other Federal agencies to support the Remedial Action Plan effort.

We at the Great Lakes Commission are enthusiastic about the program. We have offered our own resources to assist. We are funded entirely by State dollars; there are no Federal dollars involved. My Commission has directed the staff to assist in any manner possible to expedite program startup and operation.

Finally, I wanted to comment on the status of the zebra mussel infestation issue, and I realize that there have been a number of hearings and discussions to this effect. But we continue to believe that the problem is an environmental and economic disaster in the making. We believe it demands the full, concerted and immediate attention of elected officials and policymakers from the local to the international level.

One respected Great Lakes scientist has been quoted as saying that the environmental and economic impacts of the zebra mussel infestation over the long term could exceed those associated with the *Exxon Valdez* disaster. Clearly, if the infestation is left unchecked, damages in excess of $4 billion over the next 10 years have been estimated, and this for comparative terms is about the economic value of the entire Great Lakes sport fishing industry for a year.

We at the Great Lakes Commission fully support the intent of Senate Bill 2244, the Non-Indigenous Aquatic Nuisance Act of 1990, and its House companion, H.R. 4214. We believe these bills establish an aggressive program that provides a framework for multi-jurisdictional coordination, and an appropriate balance between research, monitoring and control efforts.

We also believe that these bills provide the first opportunity to anticipate and address prospective impacts of other exotic species and an opportunity to escape from the crisis response model that has so long characterized this issue and other Great Lakes management issues.

I want to emphasize that this is not just a Great Lakes issue; it is a national issue. Two-thirds of the United States has been determined to be vulnerable to the introduction of the zebra mussel, and during this time of year in particular, transport of the zebra mussel by Great Lakes tributaries or by trailered boats suggest that this could explode into a problem of national proportions. We believe time is of the essence; broad-based Congressional support is needed from coast-to-coast, and we stand ready to support this legislation and assist in any way possible.

In concluding my brief remarks, I would like to note that we urge this Subcommittee to fully recognize and support the strong and continuing Federal role in Great Lakes research by supporting the critical programs and proposed initiatives outlined above and to rest assured that the Great Lakes States take the partnership approach seriously, as evidenced by the $100 million Great Lakes Protection Fund that the Great Lakes States have established.

That concludes my verbal presentation.

Senator LEVIN. Thank you, Dr. Donahue, very much.

Have you seen any evidence that Mr. Reilly's directives to redouble the EPA's Great Lakes efforts and to create an agencywide focus on Great Lakes issues have had an impact on EPA programs yet?

Dr. DONAHUE. No, I do not. I would reiterate the earlier comments that the EPA presence in the Great Lakes through Region V and the Great Lakes National Program Office is gratifying in terms of the serious commitment that the staff gives to Great Lakes matters. However, we feel that we are going to be compromising our ability to address problems in the Great Lakes until we have direct headquarters involvement, and we simply have not seen that yet to the degree needed.

Senator LEVIN. You have talked about those Remedial Action Plans, as we have. After 5 years of work on 42 RAPs, we've got one final RAP. That is what it amounts to. In your testimony, you indicate three or four things that the EPA could do to help the States to draft those plans. If the EPA were to provide support and firm deadlines, or if we provided those deadlines, is it realistic for us to see a surge in the completion of these plans? For example, a year from now could we hope that a significant number of RAPs could be final?

Dr. DONAHUE. I do believe that if deadlines are established, in consultation with the States, and with an EPA partnership, they can have a most definite effect on expediting the RAP process.

Senator LEVIN. A number of references have been made to the treaty between ourselves and Canada. As far as the EPA defining treaty terms, should that be done on an informal basis or as part of a formal effort like the Great Lakes Initiative?

Dr. DONAHUE. In my view, I believe that additional formality is needed. In Canada, there is a Canada-Ontario Agreement that stipulates on paper the obligations of the provincial and federal governments in implementing the agreement. We do not have such a mechanism on the U.S. side right now, other than the U.S. Policy Committee, which is a positive development but very informal.

We support heightening the profile of the Policy Committee, and request that the EPA Administrator chair it. This would be one small step to point where we have a formal contract or understanding between the States and Federal Government to implement the agreement.

Senator LEVIN. I made reference before and a number of witnesses have to the proposal relative to Lake Superior that the IJC has made to designate that lake as a demonstration area and implement the treaty's requirement for virtual elimination of persistent toxic discharge.

What do you think should be done to explore that proposal?

Dr. DONAHUE. I support the notion of using Lake Superior as a demonstration project. The terms "virtual elimination" and "zero discharge" have been bandied about for years and debated as to what they mean and whether they can be implemented. I think if we are to take this agreement seriously, we have to do our best to get a head start on it, and I think by focusing in on Lake Superior, sitting down and really looking at what the terms "virtual elimination" and "zero discharge" mean, and second, whether it is realistic to implement those is a positive development.

Senator LEVIN. You ended your testimony with some discussion about the zebra mussel infestation, and you support the thrust of Senate Bill 2244 and a similar House bill that would provide us with a framework to try to control the zebra mussel.

Until the bill passes or something like it passes, is there anything that the EPA can do to assist the States, or is there anything that the Corps could do to assist the States in fighting the zebra mussel infestation?

Dr. DONAHUE. Well, quite frankly, I have been disappointed in the inadequate amount of coordination in terms of Federal agencies, State agencies and other interests meeting among themselves to plot out a strategy in the absence of Federal legislation that defines it.

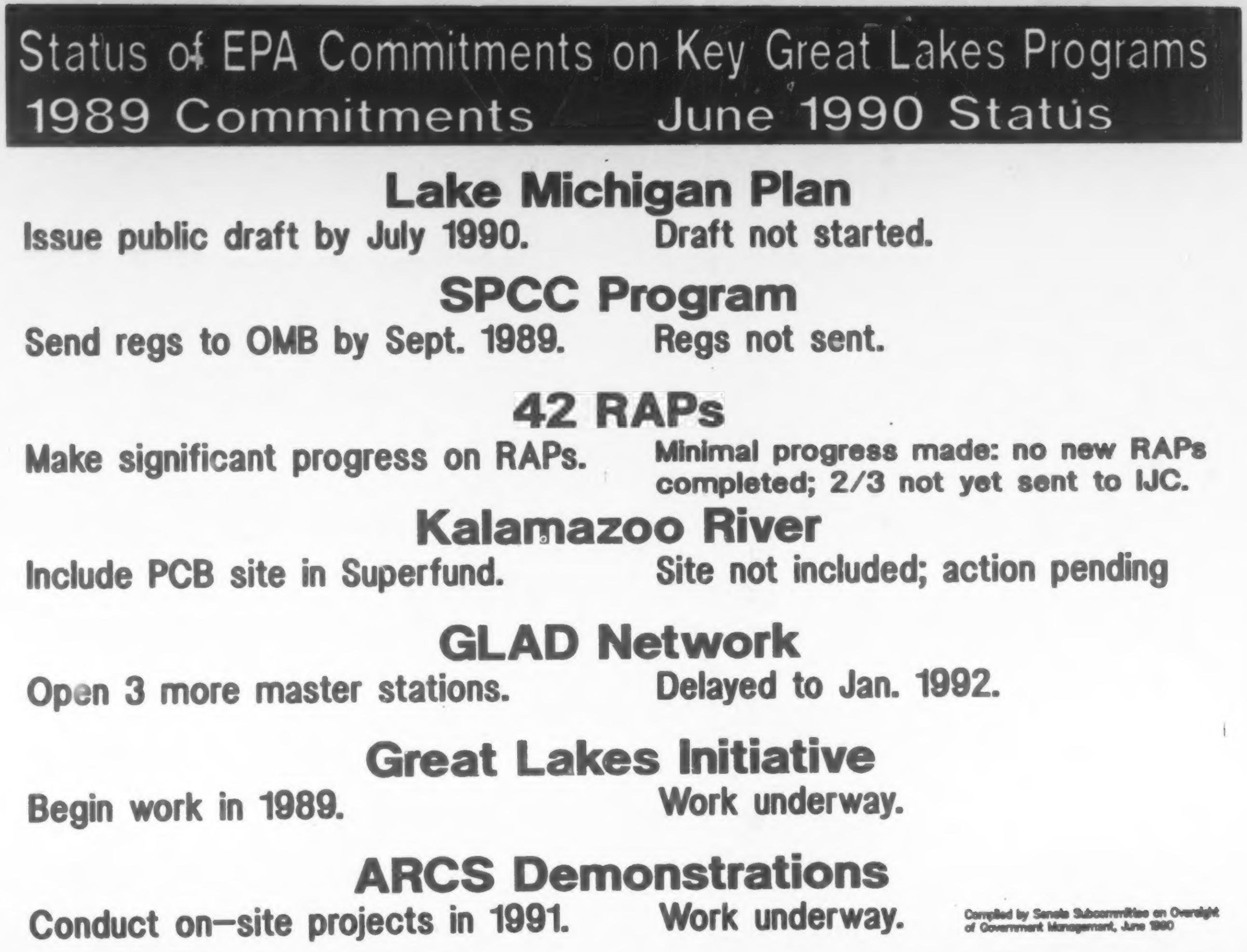
I think that the EPA and the Corps can act immediately to work with the States, with the Sea Grant Institutes, to sit down, agree as to who has what expertise to do what, and then move that process forward. But I think until that framework is in black and white in Federal legislation, we are going to be spinning our wheels in the Great Lakes. The problems we have encountered this past year in Monroe, Michigan and Cleveland and other communities are just going to be the tip of the iceberg as to what we will see next year or the years following if we do not act now on that legislation.

Senator LEVIN. Dr. Donahue, we thank you for your testimony. We thank you and the Commission for the great help which has been provided to this Committee, not only in preparation for this hearing but in a lot of other work that we have been doing on the Great Lakes.

We will stand adjourned.

[Whereupon, at 12:34 p.m., the Subcommittee was adjourned.]

APPENDIX



Status of EPA Commitments on Key Great Lakes Programs

1989 Commitments	June 1990 Status
Lake Michigan Plan	
Issue public draft by July 1990.	Draft not started.
SPCC Program	
Send regs to OMB by Sept. 1989.	Regs not sent.
42 RAPs	
Make significant progress on RAPs.	Minimal progress made: no new RAPs completed; 2/3 not yet sent to IJC.
Kalamazoo River	
Include PCB site in Superfund.	Site not included; action pending
GLAD Network	
Open 3 more master stations.	Delayed to Jan. 1992.
Great Lakes Initiative	
Begin work in 1989.	Work underway.
ARCS Demonstrations	
Conduct on–site projects in 1991.	Work underway.

Compiled by Senate Subcommittee on Oversight of Government Management, June 1990

STATEMENT OF
GORDON K. DURNIL, CHAIRMAN
UNITED STATES SECTION
INTERNATIONAL JOINT COMMISSION
AND
E. DAVIE FULTON, CHAIRMAN
CANADIAN SECTION
INTERNATIONAL JOINT COMMISSION

STATEMENT TO THE SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT ON IMPLEMENTING KEY PROVISIONS OF THE GREAT LAKES WATER QUALITY AGREEMENT TO PROTECT AND RESTORE THE GREAT LAKES

Washington, D. C.

June 13, 1990

My name is Gordon Durnil and I am the Chairman of the United States Section of the International Joint Commission (Commission). Accompanying me today is my colleague, the Chairman of the Canadian Section of the Commission, E. Davie Fulton. Chairman Fulton's presence here today underscores the bi-national character that the International Joint Commission has sustained since its creation in 1909.

Before presenting some of the Commission's current thinking on Great Lakes Water Quality Agreement matters I would like to provide some background as to our involvement with the Great Lakes.

In 1909 the Boundary Waters Treaty was negotiated between the United States on the one hand and Great Britain on behalf of Canada on the other. Canada was then fully self-governing in domestic matters but the treaty-making power was at that time reserved to Britain with respect to all countries within the then British Empire. Canadian representatives, however, participated fully in the negotiations, and the resulting Boundary Waters Treaty has always had, and continues to have, full force and effect in both our countries.

The Treaty was designed to prevent disputes between the two countries over the use of boundary waters, and to resolve questions which might arise between the United States and Canada. To assist the two Governments in the implementation of the Treaty's provisions, an independent organization known as the International Joint Commission was formed. The Commission is a bi-national, unitary body comprised of three Commissioners from each country who oversee and approve certain uses of our shared fresh water resources. The establishment of the Commission has enabled the United States and Canada to utilize the boundary waters to mutual advantage without the case by case negotiation demanded of all other such types of resource use. Since its inception 80 years ago, the Commission has acted on a variety of boundary water matters, providing peaceful and timely solutions and recommendations when views have differred. As a result, the purpose of the Treaty has been achieved.

The Commission serves in a dual capacity. As a quasi-judicial body it has jurisdiction over matters affecting the levels and flows of boundary waters. The Commission also acts as an advisory body, investigating and making recommendations on matters referred to it by the two Governments relating to those waters. In recent years, an increasing amount of the Commission's work has focused on the Great Lakes.

The Commission has had continuing Great Lakes responsibilities since 1912, when it received a reference from Governments to study the problem of pollution along the boundary generally and in particular in the connecting channels of the Great Lakes. The Commission's report at that time concluded that conditions along the boundary, and particularly in the connecting channels, ranged from perilous to disgraceful. The Commission has, through the 20th century, continued to report on water quality in the Great Lakes.

In 1970, the Commission issued a Report on pollution of the lower lakes. At that time many people were declaring that Lake Erie was a dead lake. However, the Commission identified water quality objectives which, if met, would enable both countries to fulfill their mutual obligations under the Treaty. The Commission recommended that these objectives be formally adopted by the two countries and that the United States and Canada enter into agreement on programs and measures to be taken in order to achieve them. It was also recommended that the two countries develop compatible and coordinated programs, in concert with provincial and state governments, to control pollution of the lakes from phosphorous, pesticides, toxic and hazardous materials, and other pollutants[1] As a result of this Report, the United States and Canada signed a Great Lakes Water Quality Agreement in 1972 on behalf of their two countries. The 1972 Agreement set forth general and specific objectives for water quality, and established programs and measures to implement the joint cleanup effort. In 1978 the two countries reaffirmed their commitment to restore and enhance the water quality of the Lakes by entering into a second, more comprehensive agreement.

These Agreements have led to a substantial increase in Commission Great Lakes work. The Commission is charged with monitoring progress being made by our two countries in meeting the Purpose and the General and Specific Objectives of the Agreement. Indeed the 1978 Agreement requires the Commission to report to the Federal, State and Provincial Governments no less frequently than biennially concerning progress toward the achievement Agreement General and Specific objectives. In mid-April the Commission issued its Fifth Biennial Report. The Commission used unusually strong language in its Report in an attempt to forcefully communicate what we perceive to be the seriousness of the threat and the need for all segments of society to contribute to solutions. We pointed out that despite the significance of the Great Lakes and our collective rhetoric to restore and enhance them, we as a society continue to mortgage our future by poisoning, suffocating and otherwise threatening them. Further, we concluded that what our society has failed to realize is that, what we are doing to the Great Lakes, we are doing to ourselves and to our children.

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[1] Report of the International Joint Commission on Pollution of Lake Erie, Lake Ontario and the International Section of the St. Lawrence River.

In that Report we concluded, among other things, that based on available data, the health of our children is threatened as a result of our exposure to persistent toxic substances, even at very low ambient levels, and it would be imprudent not to take immediate action. The data we examined included findings that sixteen Great Lakes wildlife species near the top of the food web had suffered reproductive problems or declines in populations and the consumption of certain Great Lakes fish posed a threat to women of child-bearing age, who passed these toxic substances on to their offspring. The Commission also encouraged additional research to determine the precise magnitude of the threat.

Mr. Chairman, I would like to point out that this appearance is quite an unusual undertaking for the Commission. Being a bi-national organization and working by consensus as we do, we have as a general matter avoided commenting on the specifics of legislative proposals on either side of the boundary, either at the Federal or jurisdictional level. But the Commission sees a need to make legislation compatible with the Agreement as being so important to implementation, we decided to appear here today.

It is now my pleasure to introduce to the Committee the Chairman of the Canadian Section of the Commission, the Honorable E. Davi~~d~~e Fulton. Chairman Fulton is one of Canada's most accomplished and respected public figures. He served as a member of Parliament for 21 years, and during that time served as Federal Minister of Justice and Attorney General of Canada, was the Chairman of the Canadian Delegation which negotiated the Columbia River Treaty with the United States, and was also Canada's Minister of Public Works. In addition to these Federal positions, Mr. Fulton was for eight years Judge of the Supreme Court of British Columbia. Chairman Fulton will now review for you additional highlights of our Fifth Biennial Report.

Chairman Fulton:

Mr. Chairman, I would like to reinforce the importance Chairman Durnil attaches to the Great Lakes Water Quality Agreement, and say that I appreciate the opportunity to speak directly to the content of our Fifth Biennial Report.

The concerns expressed to you by Chairman Durnil made it important, in our view, to recommend to the Governments of the United States and Canada that they:

- review and strengthen Great Lakes fish consumption advisories, and re-evaluate stocking programs for those fish which also carry advisories for human consumption;
- strengthen the principle of reverse onus in regulatory policies and programs by mandating the pre-testing of new chemicals to determine their potential harm to the environment or human health, prior to approval for production and use;
- devise and implement legislation, standards and other regulatory measures to give enforceable effect to the principles and objectives of the Great Lakes Water Quality Agreement on a basinwide basis.

- assess and report on the extent to which the 11 critical pollutants are used, stored and released into the Great Lakes Basin Ecosystem by nonpoint rural and urban sources and the measures that have been and will be taken to prevent their further release into the lakes, and report on the extent to which discharges of these pollutants have been explicitly considered in discharge permits to give assurance that no such discharges are permitted;

- designate Lake Superior as a demonstration area for zero discharge by providing that no point source discharges are allowed of any persistent toxic substances, based on the Purpose and Objectives of the Great Lakes Water quality Agreement;

- incorporate the Great Lakes ecosystem as a priority topic in existing school curricula throughout the basin and beyond, to ensure that our children understand the importance of a healthy Great Lakes ecosystem to our future.

An equally important recommendation is that local governments be fully informed as to their potential contribution towards achieving Agreement Objectives and that those governments accept responsibility to assist in its implementation.

In making these recommendations, the Commission urged in its report that new and extended levels of coordination and cooperation be initiated among all levels of government, industry, nongovernmental organizations and the public to ensure that necessary actions are taken to protect the health of ourselves and our children. We noted that because the problems are societal in nature, Government alone cannot be expected to do everything required to eliminate the threats to human health and the environment.

The Governments of the United States and Canada deserve very high praise for having entered into the Water Quality Agreements which are considered to be models of international cooperation. I just mentioned that Government alone should not and cannot be expected to carry the full burden of Agreement implementation. The problems associated with the lakes have taken generations to produce. In many respects they are a consequence of the way we lead our day-to-day lives. In that sense every individual in the Great Lakes Basin has a role to play in implementing the Agreement. We also recognize, however, that the Agreement is a commitment undertaken by our respective Federal Governments and that in many important ways they must be at the forefront of initiatives to realize its fulfillment. One avenue available to the Governments is to ensure that legislation, standards and other regulatory measures are tied specifically to Agreement Purposes and Objectives. In fact the Commission in its Fifth Biennial Report suggested three specific approaches that Governments could undertake in this regard. In addition to the previously mentioned recommendations that the Parties and all levels of government, including local authorities, cooperatively develop and implement appropriate legislation, standards and/or other regulatory measures that will give enforceable effect to the principles and objectives of the Agreement on a basinwide basis, these recommendations include:

- that additional review and coordination measures be put into effect to ensure other legislation and/or regulations presently in place that affect matters relevant to the Great Lakes environment -- or those enacted in the future -- are not inconsistent with Agreement Objectives; and
- that the measures devised pursuant to the foregoing include provisions for initiation, implementation and coordination of actions at all levels of government to enforce the enacted laws and/or regulations.

It is our hope that legislation can be successfully enacted by all levels of government which would track very closely the Commission's observations and concerns found in our Fifth Biennial Report. Such legislation would include making adherence to the Agreement an end point in the work of government agencies, improved accountability of various agencies involved in Agreement related work, and the need to promote a better understanding of the effects of toxic pollutants on the Great Lakes ecosystem and the food chain in the Great Lakes, including the implications of such effects on human health. The latter point is an important one. We are now confronted with the knowledge that living organisms in the Great Lakes basin are not only vulnerable to persistent toxic chemicals because of their carcinogenic and mutagenic effects, but other more subtle disease and dysfunctionality outcomes some of which were referred to earlier - deformities, metabolic changes, behavioral and hormonal changes, and immunosuppression.

3

The Commission also pointed out that if Remedial Action Plans, another area of emphasis in the Commission's report, are to be effectively implemented they may have to be incorporated into domestic legislation.

The Commission in its report spoke very strongly of the need to take immediate action to prevent releases of persistent toxic contaminants to the Great Lakes - St. Lawrence River Basin ecosystem, of ways to assist people in avoiding their exposure to persistent toxic contaminants and the need for programs to remediate areas degraded by the presence of persistent toxic contaminants. The Commission is supportive of the session you have convened today as it encourages discussion of a number of issues developed in our Fifth Biennial Report.* We are hopeful that hearings such as these will result in an expedited effort to remediate what the Commission considers to be a continuing threat to all elements of the Ecosystem including our own health and that of our children posed by the presence of persistent toxic contaminants in the Great Lakes Basin.

The legislation which you have introduced on the Great Lakes has among its purposes several which track very closely the Commission's observations and concerns found in our Fifth Biennial Report. These include making adherence to the Agreement an end point in the work of government agencies, improved accountability of various agencies involved in Agreement-related work, a call for the establishment of a timetable for the development of Lakewide Management Plans, and the creation of a stronger emphasis on contaminated sediments and spills. Timely implementation of Remedial Action Plans, another area of emphasis in the Commission's report, is also a feature of your legislation. While we do not wish to comment on the specific strategies and timeframes contemplated in your legislation, we are supportive of the concepts the legislation contains.

*You may wish to consider whether it would be preferable for Chairman Durnil to deliver the remainder of this statement.

In summary, Mr. Chairman, Commission views expressed in the Fifth Biennial Report are quite consistent with a number of provisions set out in your legislation. We are delighted to see this activity in the legislative arena, and we are hopeful that this legislative activity, coupled with Fedeal agency and jurisdictional response to the problems of the lakes will result in an expedited effort to remediate what the Commission considers to be a threat to the health of our children posed by the presence of persistent toxic contaminants in the Great Lakes Basin system.

I would now like to call upon Chairman Durnil for closing remarks.

Chairman Durnil:

I feel that our statement here this morning would be incomplete if we did not add some remarks regarding what we consider to be the importance of the resource we are talking about today. There is no question that the Great Lakes are a unique national and international natural resource. The Lakes contain 90% of surface fresh water supplies for North America. The Basin is not only home for over 40 million people, it is also the heart of North American industry, as well as a superb recreational resource for citizens of both countries.

This already invaluable fresh water resource has become even more valuable to the United States and Canada as other sources of surface and groundwater are depleted. The continued peaceful shared use and coordinated concern over the future of these waters serve as a model of international cooperation for the rest of the world to follow.

Mr. Chairman, the Great Lakes system does not exist as a group of isolated lakes. The slow-paced but determined flow of the Upper to the Lower Lakes means that the actions of one will someday impact upon its neighbor, and upon its neighbor, and so on throughout the system. Our countries must understand that contamination does not recognize international borders. We must honor our obligations under the Boundary Waters Treaty of 1909 and the 1978 Great Lakes Water Quality Agreement. And we must preserve for future generations of Americans and Canadians what is truly a magnificant natural resource.

STATEMENT OF
F. HENRY HABICHT II
DEPUTY ADMINISTRATOR
U.S. ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT
OF THE
COMMITTEE ON GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

June 13, 1990

Good morning Mr. Chairman and members of the Subcommittee. I am F. Henry Habicht II, Deputy Administrator of the U.S. Environmental Protection Agency. I am accompanied by Valdas V. Adamkus, U.S. EPA's National Program Manager for the Great Lakes National Program and the Regional Administrator for Region V. We are pleased to be here today and we thank the Subcommittee for the opportunity to discuss Agency activities in the Great Lakes.

Introduction

As requested in your letter of invitation I will address the Great Lakes Advisory Committee efforts to implement the U.S./Canada Great Lakes Water Quality Agreement (GLWQA), to improve the Spill Prevention, Control and Countermeasures program (SPCC), and the status of the Great Lakes Water Quality Initiative. I will also discuss progress in the Assessment and

Remediation of Contaminated Sediments program, Remedial Action Plans and Lakewide Management Plans.

Great Lakes Advisory Committee

The health of the Great Lakes has been a priority in the EPA for years. Significant progress has been made in addressing Great Lakes pollution problems. Yet much still needs to be done to protect and restore this vast, highly productive natural ecosystem.

Pollutants enter the Great Lakes ecosystem from a number of pathways, including air deposition, point and nonpoint sources, and Superfund sites. To address the multiple loading problems in the Great Lakes and the interdependent nature of the ecosystem, we are adjusting our traditional media-by-media regulatory orientation in favor of an integrated environmental management approach. Managing the Great Lakes from an ecosystem perspective conforms with the spirit and intent of the Great Lakes Water Quality Agreement, and will greatly enhance our efforts to protect and restore the fragile, extensively damaged Great Lakes ecosystem.

We think the Great Lakes offer an ideal opportunity to fashion a workable, multi-media approach to pollution problems that could serve as a model for ecosystems elsewhere, as well as for the Agency generally. Part of the challenge in this effort is ensuring that an Agency-wide, multi-media perspective is brought to bear on all Great Lakes policy issues. To help accomplish this, we are making changes to the membership of the Great Lakes Advisory Committee (GLAC).

The Great Lakes Advisory Committee is the EPA internal coordination mechanism that provides advice to the Agency's Great Lakes National Program Manager on policy issues affecting the Great Lakes Basin. Early in 1990, the GLAC determined there was a need for broader Agency program participation. In response, William K. Reilly, Administrator of the United States Environmental Protection Agency expanded the membership of the Great Lakes Advisory Committee to include all Assistant Administrators. Bill has asked me to chair the Committee for the first six months of this new membership. After that, we will assess the progress of the Committee, and select an appropriate chairperson.

Each Assistant Administrator was asked to review his or her programs and funding policies, and to provide recommendations to the Great Lakes Advisory Committee on the specific contributions their programs can make toward a coordinated, multi-media approach to the Great Lakes' environmental problems. Senior level contacts are to be designated by each office to provide day-to-day linkage to the Great Lakes National Program Office.

GLNPO is in the process of identifying the responsibilities that various EPA offices have under the Great Lakes Water Quality Agreement. We expect this activity to be completed this month, providing a sound basis for follow-up discussions with the various Agency offices during the remainder of the summer.

This coordinated multi-media approach within EPA will complement the efforts of the U.S. Policy Committee, which is the consortium of Federal agencies, States, and EPA Regions dedicated to implementing the U.S. responsibilities under the Great Lakes Water Quality Agreement. The combined efforts of the GLAC and the U.S. Policy Committee will more fully address the complex environmental problems in the Great Lakes, and respond to the Agreement requirements for more direct management by the U.S. and Canada. The Great Lakes provide a challenging opportunity for a consortium of Agencies to bring their collective efforts to bear on complex cross-media issues, and to investigate innovative strategies for preventing pollution. We expect the solutions generated from this working model will help us more effectively address environmental problems in other ecosystems.

Great Lakes Water Quality Initiative

Under the Great Lakes Agreement, the U.S., as a signatory party, commits itself to the objective of restoring and maintaining the chemical, physical and biological integrity of the waters of the Great Lakes ecosystem. One important hinderance to effective implementation of the Agreement has been the lack of consistent water quality criteria guidance specific to the Great Lakes Basin. The Great Lakes Initiative is designed to remedy this impediment, by developing technically sound Great Lakes water quality criteria guidance, which States can use in reviewing and revising their water quality standards. The upcoming products of the Great Lakes Water Quality Initiative include: guidance for aquatic life, human health and wildlife water quality criteria, including procedures that describe how a criterion for a particular pollutant would be applied to a given source of that pollutant; an antidegradation policy and application procedures for the policy; and a pollution prevention policy. To date, initial draft proposals for the aquatic and wildlife methodologies have been prepared by the staff workgroups and have undergone several redrafts. The committee's current schedule calls for: preparation of remaining products for initial Steering Committee ratification between now and May 1991; a prescribed period of time for soliciting broad public comment on the proposals; redrafting as needed based on comment; and final products to the Steering Committee at intervals during calendar year 1991 (last products due in November 1991).

I would note, Mr. Chairman, that the Agency's schedule for developing specific guidance for the eight Great Lakes States to use in reviewing and revising their water quality standards is highly ambitious. The States have agreed to use completed approved products of the Initiative, but it is important to keep in mind that, even if all the States adopt products of the Initiative, the institutional frameworks in each State make it likely that there will be differences in the texts of each State's adoption. We are keeping Canada informed as to the progress of the U.S. Initiative.

Spill Prevention, Control and Countermeasures Program

Following the Slorasse, Pennsylvania spill in 1988, a task force was created to review the Spill Prevention, Control and Countermeasures (SPCC) regulations. The first phase of its work entails strengthening national regulatory requirements that mandate preparation of SPCC plans in accordance with good engineering practices, and that require facilities to notify EPA of their potential eligibility under the program. The draft regulations have just finished EPA review, with final promulgation anticipated in September 1991.

The second phase, which commences this summer, will focus on improving technical aspects of the regulations such as specific tank integrity testing requirements and contingency planning, and on developing enforcement and inspection policies and guidance. EPA is also working with the National Conference of State Legislators to encourage States to adopt legislation and guidance on these matters.

Assessment and Remediation of Contaminated Sediments

The 1987 amendments to the Clean Water Act authorize the U.S. Environmental Protection Agency's Great Lakes National Program Office to coordinate and conduct a 5-year study and demonstration project relating to the control and removal of toxic pollutants in the Great Lakes, with emphasis on removal of toxic pollutants from bottom sediments. This effort has been named the Assessment and Remediation of Contaminated Sediments (ARCS) program. The Clean Water Act identified five areas to receive priority consideration in locating and conducting the demonstration projects: Saginaw Bay, Michigan; Sheboygan Harbor, Wisconsin; Grand Calumet River, Indiana; Ashtabula River, Ohio; and Buffalo River, New York.

Considerable progress has been made to demonstrate remedial options for contaminated sediments. A work plan for the Assessment and Remediation of Contaminated Sediments (ARCs) program has been developed, addressing specific activities to be performed at each of the five priority locations identified in Section 118(c)(3) of the Clean Water Act. Large volume samples (100 gallons) of sediment have been collected from each for treatability testing. Between ten and fifteen different treatment processes will be applied to selected samples from all five sites on a bench scale.

A final report for the ARCS program will be available in December 1992. It will include guidance on how to conduct assessments of freshwater contaminated sediment problems, guidance on remedial alternatives (including cost and possible environmental losses) and tools to assist decisionmakers in evaluating alternatives (i.e., models and risk assessment tools). This will be closely coordinated with the Agencywide sediment strategy and technical guidance development, and with existing programs, such as the Clean Water Act Section 404 dredging program.

Finally, I would note for the Committee that additional specific information on the ARCS program was provided to the Committee earlier and, in the interest of time, I will not repeat it here.

Remedial Action Plans

Annex 2 of the Great Lakes Water Quality Agreement directs the parties to cooperate with State and Provincial governments to ensure that Remedial Action Plans (RAPs) are developed and implemented for the Areas of Concern (AOC). The goal of Remedial Action Plans is to define the actions and the timetables to restore all impaired beneficial uses identified in the Areas of Concern ("toxic hot spots").

There are twenty-five Areas of Concern within the United States, and the United States and Canada share responsibility for five others. We are currently considering the International Joint Commission's recent proposal to establish Presque Isle Bay at Erie, Pennsylvania as another area of concern under the Great Lakes Agreement.

Under the Agreement and consonant with delegated Federal responsibilities under the Clean Water Act, development of Remedial Action Plans is a State activity. Completed RAPs are submitted to EPA Regions and incorporated into State Water Quality Management Plans pursuant to Section 303 of the CWA, and become binding on the State through that mechanism. RAPs are also submitted to the International Joint Commission for review and comment at three stages: when the definition of the problem has been completed; when remedial and regulatory measures have been selected; and when monitoring indicates that impaired beneficial uses have been restored.

The States have agreed to take the lead role in developing RAPs. It is important to recognize that the RAPs process represents a new approach to environmental decision-making: complex technical and social issues are being addressed at a grass-roots level in an effort to educate the public and build local commitment for the resources needed to implement RAPs following completion and approval. In a number of instances, the

States have been very successful in garnering local community support and moving forward with RAP development (e.g., Green Bay, Rouge River, Buffalo River and Cuyahoga River). In other instances, however, progress on RAP development as been slow for a number of reasons, including lack of local community support and the technical complexity of the environmental problems. It is apparent that greater Agency participation is needed in the RAP process to provide direct scientific and technical assistance.

In particular, the States requested that EPA play a greater role in the development of RAPs for international AOCs (i.e., Niagara River, St. Mary's River, Detroit River, St. Clair River, and St. Lawrence River). In response to this request, Regions II and V will be providing support to the States in FY 1991 for the development and implementation of RAPs. The Regions provided early grants to the States as start-up funds, and are negotiating specific schedules for RAP submittals with the States as part of the FY 1991 Section 106 planning process. It should be noted, however, that Section 106 grants are the principal source of Federal funding for State water pollution control programs, which means that RAP funding development and implementation is competing against funding for other high priority State programs and activities.

In the past 12 months the States have submitted Stage I Remedial Action Plans for the Buffalo and Oswego Rivers in New York and for the Sheboygan Harbor in Wisconsin. The Buffalo River RAP was also submitted for Stage II review. All three RAPs now are undergoing IJC Great Lakes Water Quality Board review.

The settlement of the Outboard Marine Corporation/Waukegan Harbor Superfund action, through a consent Decree and Superfund Record of Decision, has enabled Region V to put in place a Stage II RAP for the PCB problem in the Harbor. Region V is negotiating an agreement with the Illinois Environmental Protection Agency on the development of the RAP to cover other possible sources of contamination in the Area of Concern (AOC). GLNPO will be providing limited financial support to Illinois for development of these products.

By the end of calendar year 1991, we anticipate that all but two Stage I RAPs will be submitted by the States to the IJC. It is important to note that, while States are still in the process of developing RAPs, remedial actions are not being delayed and clean up is moving ahead under ongoing programs such as Superfund, NPDES activities, Nonpoint Source Management Plans, and local initiatives. The schedule for Stage II submissions is much more uncertain and will depend largely on when Stage I RAPs are completed. However, we do expect two State II Raps in the next 12 months.

This will help to ensure that RAP implementation receives appropriate priority as States allocate scarce resources among competing needs.

EPA does not believe that statutory deadlines for Remedial Action Plans or other activities conducted under the Great Lakes Water Quality Agreement will enhance the ability of EPA or the States to resolve the complex technical and scientific issues or gain vital community support for action. Our experience indicates that codifying deadlines does not assure high quality results, and raises unreasonable public expectations.

Lakewide Management Plans

The 1987 revisions to the Great Lakes Water Quality Agreement require the United States and Canada, in consultation with State and Provincial governments, to develop and implement Lakewide Management Plans (LMPs) for each of the Great Lakes. These plans must be designed to reduce the loadings of persistent, bioaccumulative pollutants (i.e, critical pollutants) to the Lakes, with the ultimate goal of virtual elimination of toxics. Progress in developing the LMP for Lake Michigan has been slow because of the technical complexity of controlling toxic substances on a lakewide basis, resource constraints, and the need to build alliances with a large number of Federal, State, and local entities. Additionally, it should be noted that the technical complexities inherent in developing LMPs make it difficult to find people with the expertise and experience needed to chart a course through largely unknown waters.

Although the EPA Regions have the lead responsibility in developing LMPs, Federal, State, and local community participation will be required to effectively implement these plans. In addition, while the LMP process represents a challenging opportunity to maximize the efficient use of multiple sources of financial and technical resources through integrated, coordinated Federal, State and local action, we must recognize that the geographic scale and the technical complexity of the Lake Michigan LMP is unprecedented in our experience.

EPA Region V initiated the LMP process for Lake Michigan in FY 1990. The Region will establish a joint Federal-State policy committee to guide LMP development with a goal of LMP development in FY 1991 with full public participation in the process. An initial draft of the LMP, identifying critical pollutants and the initial steps needed to identify and control sources of these pollutants with appropriate time schedules, should be available by the first quarter of FY 1992. The materials provided to the Committee earlier include more detailed information on the steps we are taking to lay the foundation for Lake Michigan LMP development in FY 1991.

Michigan Executive Order

The Agency supports Michigan's efforts to ensure consistency among State administrative rules or guidelines, the objectives of the GLWQA, the Annexes of the GLWQA, and the provisions of the Great Lakes Toxic Substances Control Agreement (or Governors' Agreement). In particular, we recognize the need for greater consistency among States in terms of their water quality standards and their procedures for implementing these standards. The agency applauds the State of Michigan's region-wide public review of water quality standards and pollution control programs for consistency with the agreement. State efforts to eliminate the discharge of persistent toxic pollutants to the Great Lakes and to encourage the reduction, reuse or recycling of persistent toxic substances as an alternative to their discharge or release will contribute significantly to protection of the Basin ecosystem.

Conclusion

In closing, let me say that the Great Lakes Water Quality Agreement between the United States and Canada commits the parties to ar ecosystem-wide approach to solving water quality problems. The signatories agreed not to let national or State boundaries deter them from seeking the causes and sources of Great Lakes problems, because those problems transcended national boundaries.

The problems also transcend organizational boundaries within EPA. The challenge that faces the Agency today is to fully coordinate and integrate its programs and activities, leading to a true cross-media approach to protecting and restoring the Great Lakes ecosystem. This is the effort that Bill Reilly put into motion this spring, and, as chairman of the GLAC, I am committed to realizing this goal.

Over the coming months, we expect to make progress building the framework to move the Agency toward a true multi-media approach to ecosystem protection, using the Great Lakes as our living laboratory. At the same time, we will continue to work with other interested Federal agencies, the States and local governments to restore and maintain the integrity of the Great Lakes.

We appreciate the Committee's continued interest in the Great Lakes, and share your desire to see this great national treasure restored to health.

This concludes my prepared remarks. I would be pleased to respond to any questions you may have.

DEPARTMENT OF THE ARMY

CORPS OF ENGINEERS

COMPLETE STATEMENT
OF

BRIGADIER GENERAL JUDE PATIN
DIVISION ENGINEER, NORTH CENTRAL DIVISION

BEFORE THE

SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT

OF

COMMITTEE ON GOVERNMENTAL AFFAIRS

U.S. SENATE

JUNE 13, 1990

DEPARTMENT OF THE ARMY
COMPLETE STATEMENT
OF
BRIGADIER GENERAL JUDE PATIN
DIVISION ENGINEER, NORTH CENTRAL DIVISION
U.S. ARMY CORPS OF ENGINEERS
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT
OF
COMMITTEE ON GOVERNMENTAL AFFAIRS
U.S. SENATE
JUNE 13, 1990

MR. CHAIRMAN AND MEMBERS OF THE SUBCOMMITTEE, MY NAME IS BRIGADIER GENERAL JUDE PATIN. I AM THE COMMANDING GENERAL OF THE NORTH CENTRAL DIVISION OF THE U.S. ARMY CORPS OF ENGINEERS. IT IS MY PLEASURE TODAY TO MAKE THIS FIRST APPEARANCE BEFORE YOUR COMMITTEE. WITH ME FROM THE NORTH CENTRAL DIVISION IS COLONEL JOHN GLASS, THE DETROIT DISTRICT COMMANDER.

THE ARMY CORPS OF ENGINEERS, INCLUDING THE NORTH CENTRAL DIVISION, HAS EXCELLENT ENGINEERING, ENVIRONMENTAL, AND MANAGEMENT EXPERTISE. THERE ARE LITERALLY HUNDREDS OF EXAMPLES OF THIS IN THE GREAT LAKES AREA, INCLUDING BEACH NOURISHMENT AND WETLANDS HABITAT PROTECTION AT PRESQUE ISLE, PENNSYLVANIA; MANAGEMENT OF 72 COMMERCIAL SHIPPING CHANNELS AND HARBORS AND 64 RECREATION HARBORS, OVER 900 MILES OF NAVIGABLE CHANNELS; AND AN EXTENSIVE AND ENVIRONMENTALLY SENSITIVE DREDGED MATERIAL MANAGEMENT PROGRAM.

THE CORPS HAS EVOLVED TO BECOME ONE OF THE LEADING AGENCIES IN ENVIRONMENTAL MANAGEMENT AND RESTORATION. ASSISTANT SECRETARY OF THE ARMY FOR CIVIL WORKS, ROBERT W. PAGE, HAS TAKEN AN AGGRESSIVE APPROACH TO MAKING THE CORPS TECHNICAL AND MANAGERIAL EXPERTISE AVAILABLE FOR ENVIRONMENTAL PROGRAMS. LIEUTENANT GENERAL HENRY HATCH, THE CHIEF OF ENGINEERS, HAS DIRECTED THE CORPS TO SUPPORT ENVIRONMENTAL INITIATIVES AND TO BE LEADERS IN CARING FOR THE ENVIRONMENT.

THE NORTH CENTRAL DIVISION FULLY SUPPORTS THESE INITIATIVES. CURRENTLY, WE ARE TRYING TO PUT OUR ENGINEERING DESIGN AND CONSTRUCTION CAPABILITIES TO WORK FOR THE GREAT LAKES ENVIRONMENT. GIVEN OUR RECENT SUCCESSES WITH ENVIRONMENTAL

PROJECTS AND PROGRAMS, WE ARE CONFIDENT THAT BY WORKING FOR OTHERS WE CAN HAVE A POSITIVE IMPACT IN SOLVING GREAT LAKES ENVIRONMENTAL PROBLEMS.

CORPS INVOLVEMENT IN SPECIFICALLY ENVIRONMENTAL ACTIVITIES IS CONDUCTED UNDER WHAT WE CALL OUR WORK FOR OTHERS PROGRAM. IN THIS PROGRAM, CORPS CAPABILITIES ARE UTILIZED BY OTHER AGENCIES ON A REIMBURSABLE BASIS. WE ARE PLEASED THAT OUR SERVICES CAN BE PUT TO SUCH GOOD USE.

I WILL NOW ADDRESS THE QUESTIONS RAISED IN YOUR LETTER OF INVITATION TO THIS HEARING, WITH THE EXCEPTION OF GREAT LEAP, THE GREAT LAKES ENVIRONMENTAL ACTION PROGRAM. AT THIS TIME, I CANNOT COMMENT FURTHER ON THAT MATTER PENDING THE INTRODUCTION OF LEGISLATION ADDRESSING GREAT LEAP AND ITS REVIEW BY THE ADMINISTRATION.

I WILL BEGIN MY COMMENTS ON YOUR OTHER QUESTIONS BY NOTING THAT THE CORPS HAS AUTHORIZED NAVIGATION PROJECTS IN OR ADJACENT TO 28 AREAS OF CONCERN DESIGNATED BY THE INTERNATIONAL JOINT COMMISSION AS SITES HAVING IMPAIRED BENEFICIAL USES DUE TO WATER QUALITY DEGRADATION. WE PARTICIPATE IN BOTH DEVELOPMENT AND IMPLEMENTATION OF REMEDIAL ACTION PLANS THROUGH OUR NAVIGATION OPERATION AND MAINTENANCE RESPONSIBILITIES. THE CORPS HAS RECENTLY PARTICIPATED IN THE DEVELOPMENT OF REMEDIAL ACTION PLANS FOR BUFFALO RIVER, NEW YORK; ASHTABULA AND CUYAHOGA RIVERS, OHIO; MILWAUKEE AND SHEBOYGAN, WISCONSIN; AND THE GRAND CALUMET RIVER AND INDIANA HARBOR CANAL, INDIANA. CORPS DATA COLLECTION, RESEARCH, AND OPERATION AND MAINTENANCE DREDGING HAVE BEEN IDENTIFIED IN SEVERAL REMEDIAL ACTION PLANS AS INTEGRAL PARTS.

NOW, I WILL TURN TO OUR PLANS AND ACTIONS THAT HAVE OR WILL BE TAKEN TO REMEDIATE CONTAMINATED SEDIMENTS AT THE THREE HARBORS YOU REFERENCED IN YOUR LETTER OF INVITATION, SHEBOYGAN HARBOR, WISCONSIN, INDIANA HARBOR, INDIANA, AND WAUKEGAN HARBOR, ILLINOIS.

WE CURRENTLY ARE NOT INVOLVED IN THE SUPERFUND ACTIVITIES AT SHEBOYGAN HARBOR. AT THIS SUPERFUND SITE, THE POTENTIALLY RESPONSIBLE PARTY NOW IS COMPLETING REMEDIATION DEMONSTRATIONS UNDER EPA'S SUPERVISON.

AN EXAMPLE OF THE ISSUES WE ARE INVESTIGATING INVOLVES THE INDIANA HARBOR AND CANAL MAINTENANCE DREDGING AND DREDGED MATERIAL DISPOSAL. THE PROJECT, AS DESCRIBED IN THE DRAFT REPORT, WOULD REMOVE 3 MILLION CUBIC YARDS OF CONTAMINATED SEDIMENTS

DREDGED FROM INDIANA HARBOR AND CANAL. WE HAVE MADE A SIGNIFICANT EFFORT TO MANAGE CONTAMINATED SEDIMENTS AT THIS PROJECT IN THE MOST COST EFFECTIVE MANNER, INCLUDING STATE-OF-THE-ART RESEARCH ON THE IMPACTS OF TAKING NO ACTION AND THE FEASIBILITY OF INNOVATIVE TREATMENT TECHNOLOGIES.

AT WAUKEGAN HARBOR OUR CHICAGO DISTRICT IS CURRENTLY REEVALUATING ITS DRAFT PLANS FOR A CONFINED DISPOSAL FACILITY. EXTENSIVE COORDINATION IS ONGOING REGARDING APPROPRIATE CAPACITY FOR THE FACILITY AND COST-SHARING ARRANGEMENTS. IN ADDITION, WE RECENTLY COMPLETED AT EPA'S REQUEST THE FINAL DESIGN REVIEW AND OVERSIGHT OF THE WAUKEGAN HARBOR SUPERFUND SITE REMEDIATION BY THE RESPONSIBLE PARTY. THE REMEDIATION INVOLVES REMOVING SEDIMENTS CONTAMINATED WITH UP TO 100,000 PARTS PER MILLION OF PCB'S AND THE APPLICATION OF A THERMAL EXTRACTION TREATMENT TECHNOLOGY.

A SIGNIFICANT ENVIRONMENTAL ACTIVITY UNDER OUR WORK FOR OTHERS PROGRAM IS OUR PARTICIPATION IN THE EPA'S ASSESSMENT AND REMEDIATION OF CONTAMINATED SEDIMENTS PROGRAM, OR ARCS. OUR WORK FOR OTHERS PROGRAM ALLOWS CORPS TECHNICAL EXPERTISE TO BE USED IN SUPPORT OF OTHER AGENCIES' MISSIONS WITH THE OTHER AGENCIES PROVIDING THE FUNDING. THIS APPROACH ALLOWS OPTIMUM USE OF FEDERAL RESOURCES AND MAINTAINS CLEAR LINES OF PROGRAM RESPONSIBILITY. THE CORPS SUPPORT FOR THE ARCS PROGRAM WAS FORMALIZED WITH A MEMORANDUM OF AGREEMENT IN JANUARY 1989 BETWEEN THE DEPARTMENT OF THE ARMY AND THE EPA.

THE CORPS ROLE INCLUDES PARTICIPATION ON EACH OF THE SIX ARCS' COMMITTEES AND WORK GROUPS. THE NORTH CENTRAL DIVISION AND THE CORPS WATERWAYS EXPERIMENT STATION ARE ALSO PROVIDING REVIEWS OF DATA BASES FOR ARCS' PRIORITY SITES, A LITERATURE REVIEW OF SEDIMENT BIOASSAYS, AND A REVIEW OF TREATMENT TECHNOLOGIES. WE HAVE ALSO GATHERED REPRESENTATIVE CONTAMINATED SEDIMENTS FROM FOUR OF THE FIVE GREAT LAKES SITES DESIGNATED IN THE SECTION 118 AUTHORITY. THESE FOUR SITES ARE THE BUFFALO RIVER, NEW YORK; ASHTABULA RIVER, OHIO; SAGINAW BAY, MICHIGAN; AND GRAND CALUMET RIVER, INDIANA. THE CORPS OF ENGINEERS IS PERFORMING OR COORDINATING BENCH SCALE TESTS ON TEN TREATMENT TECHNOLOGIES WITH SEDIMENTS FROM ALL OF THE SITES. WE ARE CURRENTLY EVALUATING POTENTIAL SITES AND TECHNOLOGIES FOR PILOT SCALE DEMONSTRATIONS AND WILL PREPARE MORE DETAILED PLANS FOR THREE POTENTIAL DEMONSTRATIONS FOR CONSIDERATION OF FUNDING BY EPA.

INCREASED CORPS ACTIVITY UNDER THE ARCS PROGRAM IS ANTICIPATED FOR FISCAL YEARS 1991 AND 1992 WITH THE IMPLEMENTATION OF PILOT-SCALE DEMONSTRATIONS AT ONE OR MORE OF THE FIVE PRIORITY SITES. THESE PILOT-SCALE DEMONSTRATIONS WILL LIKELY UTILIZE MOBILE TREATMENT UNITS AND PROCESS A FEW HUNDRED CUBIC YARDS OF CONTAMINATED SEDIMENT AT EACH DEMONSTRATION SITE.

THE CORPS WILL DEVELOP "CONCEPT PLANS" FOR FULL SCALE SEDIMENT REMEDIATION AT THE PRIORITY SITES. THE "CONCEPT PLAN" WILL INCLUDE COST ESTIMATES AND ESTIMATES OF CONTAMINANT LOSSES, AND WILL BE USED AS EXAMPLES FOR THE APPLICATION OF ARCS STUDIES AND GUIDANCE TO OTHER AREAS OF CONCERN.

ARCS FUNDING AND TIMEFRAME WOULD NOT ALLOW FOR THE IMPLEMENTATION OF A FULL-SCALE DEMONSTRATION OF SEDIMENT REMEDIATION. IT IS ESTIMATED THAT THE MINIMUM SIZE FOR A FULL-SCALE DEMONSTRATION WOULD BE ABOUT 10,000 CUBIC YARDS AND THE COST WOULD BE APPROXIMATELY $5 MILLION.

NO ADDITIONAL AUTHORITY FOR ENVIRONMENTAL DREDGING IN THE GREAT LAKES IS NEEDED AT THIS TIME. SECTION 108 OF THE CLEAN WATER ACT AUTHORIZES THE ADMINISTRATOR OF THE EPA REMOVE POLLUTANTS FROM THE GREAT LAKES, AND SECTION 115 AUTHORIZES THE ADMINISTRATOR, ACTING THROUGH THE SECRETARY OF THE ARMY, TO REMOVE AND DISPOSE OF IN-PLACE POLLUTANTS FROM CRITICAL PORT AND HARBOR AREAS. WHILE THESE AUTHORITIES MIGHT NOT COVER ALL POSSIBLE POLLUTANT SITUATIONS IN THE GREAT LAKES, THEY DO COVER THE VAST MAJORITY OF THEM. MOREOVER, IT WOULD BE MANY YEARS, GIVEN CURRENT BUDGET REALITIES, BEFORE ANY ADDITIONAL AUTHORITY WOULD BE NEEDED.

THAT CONCLUDES MY REPORT, AND I AM NOW AVAILABLE TO ANSWER ANY QUESTIONS.

TESTIMONY BEFORE THE SUBCOMMITTEE ON OVERSIGHT OF GOVERNMENT MANAGEMENT, GOVERNMENTAL AFFAIRS COMMITTEE

June 13, 1990

9:30 a.m.

342 Dirksen Bldg.

Washington, D.C.

Statement by:

Dr. Michael J. Donahue
Executive Director

Great Lakes Commission
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Ann Arbor, MI
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Introduction

I am pleased to be here on behalf of the eight member states of the Great Lakes Commission to speak to the importance of current legislative, program and budget issues affecting the quality of the region's environment, the strength of its economy and the health and well-being of its citizenry.

I commend you for you initiative in conducting this hearing and, speaking for the entire Commission membership, thank you for your continuing support for our cause - the informed use, development and protection of this great resource. The Great Lakes Commission has not and will not stand by and allow environmental or economic destruction of our region's greatest asset through misuse, neglect or ill-conceived policy and legislation. Nor will the Commission compromise the region's potential by failing to seize any and all opportunities to advocate the interests and concerns of its member states.

In my remarks today, I will focus primarily on the current status and future prospects of federally-funded programs for Great Lakes research, management and clean-up. I will argue for a strengthened federal-state partnership; a renewed and enhanced federal presence in the Great Lakes; and legislative program remedies to several issues and opportunities of paramount importance.

To place my remarks in context, I refer to the character in the famous cartoon strip Pogo who once lamented the challenge of "insurmountable opportunities" that can surround and often overwhelm. This phrase very aptly describes the challenge we face in the Great Lakes today. Until recently, the history of Great Lakes management was written in large part by episodes of crisis response. We became adept at diagnosing problems and formulating policy and legislation in response to them. We reacted well to crises but, in so doing, lost sight - or had little time to focus on - the "bigger picture" for the Great Lakes. The "bigger picture" is a philosophy filled with these seemingly "insurmountable opportunities". It recognizes the continuing need to rehabilitate and protect the Great Lakes and understands the magnitude of the task at hand. But, it also recognizes the untold potential of this great resource as an economic and environmental asset for the region, the nation and the world. Only now are we realizing the potential contribution of the Great Lakes in these areas. We no longer view development and protection as mutually exclusive goals, nor do we believe that achieving a balance between them is sufficient. Rather, we recognize these goals as inseparable; we must manage our resources accordingly if we are to tap the great potential of the Great Lakes. Indeed, this is the philosophy that guides the eight Great Lakes states as they meet in forum through the Great Lakes Commission.

My objective then, is to focus on opportunities; to offer Great Lakes Commission prospectives and recommendations on means to strengthen federal-state partnerships in Great Lakes Basin management. I will address the following items that I understand to be of principal interest to the Subcommittee:

- The current and prospective role of the U.S. Environmental Protection Agency under the terms of the Great Lakes Water Quality Agreement;
- The status of the Remedial Action Plan process and means to expedite it;
- The status of the U.S. Army Corps of Engineers' proposed Great Lakes Environmental Action Program (Great LEAP) and its potential benefits; and

- The status of the zebra mussel infestation problem and the necessary mitigative actions that must be taken.

The Great Lakes Commission - An Overview

While each of you are undoubtedly acquainted with the purpose and programs of the Great Lakes Commission, I do wish to begin my testimony with a brief background statement to provide a context for the items that follow.

The Great Lakes Commission is an interstate compact agency with a legislative mandate to represent the collective views of the eight Great Lakes states before Congress and the federal government. The Commission was established in 1955 under state statutes and granted Congressional consent in 1968 via P.L. 90-419, The Great Lakes Basin Compact. The Compact directs the Commission to "promote the orderly, integrated, and comprehensive development, use and conservation of the water resources of the Great Lakes basin."

The Commission is comprised of governors' appointees, state officials and legislators from its member states (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin). It is funded entirely by the states themselves and stands ready to assist and represent them on issues and opportunities of shared interest.

We at the Great Lakes Commission share a resource management philosophy that influences every aspect of our work. To summarize, we recognize that:

- Regional economic development and environmental goals are not mutually exclusive. They are inseparable and must be pursued in concert to achieve the region's full potential.
- The eight Great Lakes states, acting collectively through the Great Lakes Commission, have a principal stewardship responsibility for the precious and irreplaceable resources of the Great Lakes region.
- Management of the Great Lakes is in both the national and regional interest; it is neither the exclusive responsibility of the states nor the federal government. Rather, a federal/state partnership must be sustained and nurtured.
- The Great Lakes, despite their vastness and resilience, are a finite and fragile resource. Maintaining their integrity is a sound and necessary investment in the region's economy and environment, and the health, welfare and quality of life of its citizens.

The Commission pursues its mandate via three functions: information sharing among its member states, coordination of state positions on regional issues, and advocacy of those positions on which the states agree. A wide range of environmental, resource management and economic development issues are addressed. In so doing, the Commission works closely with governors and state legislators, members of the Great Lakes Congressional Delegation, municipal, state and federal agencies, interstate organizations, private sector firms and associations, universities, colleges and individual citizens.

Protection and Restoration of the Great Lakes: A National and International Concern

The environmental and economic significance of the Great Lakes system transcends the region's political boundaries and spans this nation, North America and the entire globe. This statement is based in fact and is beyond speculation or opinion.

The Great Lakes are not just another resource. They have national and global significance that demands the interest and support of citizens and members of Congress from coast to coast. The Lakes are the world's greatest laboratory; the bellwether of scientific investigation. They draw scientific leadership from around the world. What we learn here - from both our mistakes and our successes - forms the basis of knowledge for future actions and management efforts elsewhere.

The Great Lakes form the industrial heartland of North America. In many respects, as we go, so goes the nation. More than half of all U.S. heavy industry is located along Great Lakes shores, where three-fourths of our nation's steel is produced. The Lakes are a gateway to the world's economic centers via the Great Lakes St. Lawrence Seaway. Since its opening, well over a billion metric tons of cargo - worth over $200 billion, have moved through the Seaway to and from ports in North America, Africa, Asia and the Middle East. The Lakes are also a recreational treasure contributing billions to a water-based economy and employing tens of thousands of citizens; sport fishing alone is valued at up to four billion dollars per year.

We in the Great Lakes region share stewardship responsibility for 90% of this nation's fresh surface water and one-fifth of the world's supply. Twenty five million residents rely on the surface waters of the Great Lakes for drinking water. Every day, over 985 billion gallons of water are withdrawn or used in-stream to support the residential, commercial, industrial and agricultural requirements of this nation's heartland, - over 26,000 gallons per resident per day.

Despite these impressive figures, there has been a continuing tendency for U.S. federal policy to define Great Lakes issues as exclusively regional or state-based in nature, as opposed to national or international. There seems to be a continuing failure to recognize (or an effort to ignore) the fact that....... All federal laws from the Northwest Ordinance of 1787 forward recognize the international boundary created by the Great Lakes and assign to the federal government the responsibility of maintaining our commitments to Canadian..... or that the International Boundary Waters Treaty of 1909 acknowledges the international nature of the Great Lakes system and affirms the U.S. federal government's commitment to it..... or that the Merchant Marine Act Amendments of 1970 formally recognize the Great Lakes as "the nation's fourth seacoast" with national and international stature and significance..... or that the Great Lakes Water Quality Agreement, first signed in 1972, is recognized in federal law as a statement of U.S. federal commitment to an international resource.

We in the Great Lakes region look to the federal government for a hand, not a hand-out. We fully subscribe to the partnership approach, and have acted accordingly. The creation of a $100 million Great Lakes Protection Fund supported entirely by the eight Great Lake states is but one example. Even with the onset new management challenges this past decade, however, federal funding for basic research, monitoring and enforcement programs to restore and protect the Great Lakes declined 11 percent in real dollars between fiscal 1981 and fiscal 1990. Despite this fiscal environment, we must apply ourselves not only to past and present environmental protection challenges but to those that are now emerging. The partnership approach philosophy must move from concept to application if we are to protect, preserve and wisely use this national and international resource.

The Role of the U.S. Environmental Protection Agency in Great Lakes Water Quality Agreement Implementation

By any measure -- physical, environmental or socio-economic -- the Great Lakes system is best described as unique. As such, it demands an equally unique set of institutional arrangements to accommodate its multiple use, multiple-jurisdictional characteristics. Over the course of this century, a governance structure has emerged that transcends the parochialism of political jurisdictions and recognizes the need to manage by hydrologic as well as political boundaries. It is a system that -- despite its imperfections -- has served this region and the nation well.

The Great Lakes National Program Office (GLNPO) of the U.S. Environmental Protection Agency is the centerpiece of the U.S. federal government's commitment to the Great Lakes. The Office was created in 1978 to oversee U.S. fulfillment of its obligations under the Great Lakes Water Quality Agreement with Canada "to restore and maintain the physical, chemical, and biological integrity of the Great Lakes Basin ecosystem." In 1987 the Clean Water Act formally recognized the Great Lakes as a valuable national resource and established a statutory mandate for GLNPO to lead U.S. implementation of the Great Lakes Water Quality Agreement.

To fulfill this mandate, GLNPO carries out a wide range of monitoring and research activities. The monitoring work includes water sampling throughout the five lakes, mass-balance studies in Green Bay, Wisconsin, and analysis of all sources of lake pollution. The office researches and evaluates technologies to clean up contaminated sediments. It also creates computer models of the relationships among pollution sources. Moreover, GLNPO staff work with Canadian officials to set water-quality standards, develop lakewide-management plans, and report on the progress in meeting these and other mandates of the Agreement.

The Great Lakes Commission fully supports the Great Lakes National Program Office's role under the Agreement and views the Office as an appropriate institutional framework to address the unique requirements of the Great Lakes region. It is a model center for coordinating EPA's Great Lakes presence and, due to its focus, is ideally suited to undertake and coordinate demonstration projects of both regional and national significance.

Among the Commission's member states, however, concerns have been expressed over the Office's ability to achieve the goals of the Agreement and carry out federal responsibilities pursuant to it. Such concerns include the need to strengthen levels of coordination with the Great Lakes states in all areas under the Great Lakes Water Quality Agreement; clarify the role of the EPA in the Remedial Action Plan and Lakewide Management Plan processes; provide the states with additional support and guidance in the development and implementation of Remedial Action Plans; expedite the Great Lakes Water Quality Initiative to promote consistency in state water quality standards; and serve more effectively as the principle coordinating device for the overall U.S. federal presence in Great Lakes management.

We at the Great Lakes Commission have articulated two statements of policy that we believe will address many of the concerns present in what is otherwise a viable and effective arrangement. The first pertains to funding; the second to the level of U.S. EPA Headquarters support for, and involvement in, agency activities under the Great Lakes Water Quality Agreement.

The currently authorized funding level for GLNPO is $15.9 million -- $4.9 million for existing programs and $11 million for new responsibilities authorized under the Clean Water Act of 1987. While Congress has appropriated some of the new funding, it has not been adequate to meet all the new responsibilities. Annual reporting and contaminated-sediments research are the only provisions of the Great Lakes Water Quality Agreement to which the office has been able to devote significant financial and staff resources.

The President's $12.3 million request for fiscal year 1991, a 7 percent cut from actual funds received in fiscal 1990, will have wide-ranging effects on GLNPO programs. In particular, these cuts will limit the use of new ship and laboratory capabilities for the toxics-monitoring program and the development of Lakewide-Management Plans; jeopardize U.S. commitments to Canada on joint implementation of binational atmospheric deposition network for toxics; and slow developments and implementation of remedial action plans.

Until this problem is resolved, it is unlikely that the concerns voiced in the region can be effectively addressed. Even funding at the authorized level will leave many tasks unaccomplished. This view is shared by the Great Lakes Commission and six other governmental, citizen and private regional organizations, and appears in a March 1990 white paper presented to Congress. Funding levels suggested in the Great Lakes Critical Programs Act, sponsored by Senators Levin, Kohl, Glenn and others are more in line with actual needs.

A second matter of concern articulated by the member states of the Great Lakes Commission speaks to the need for a strengthened institutional framework to improve implementation of the Great Lakes Water Quality Agreement. The Great Lakes Commission is concerned with the lack of accountability in implementation of the Great Lakes Water Quality Agreement. For example, a 1989 General Accounting Office (GAO) review of the Agreement and the International Joint Commission found that a full one-third of all major recommendations in the Agreement had not been implemented. The GAO also identified a lack of communication between and among state and federal agencies regarding necessary remedial actions.

To address the problem, the Great Lakes Commission recommends that the existing U.S. Policy Committee operating under EPA auspices at the regional level be formally established by the federal Administration and elevated in stature and mandate to include senior policy officials from the Great Lakes states and appropriate federal agencies. The Great Lakes Commission further believes that the U.S. EPA Administrator should serve as chair of this U.S. Policy Committee.

A Canada-Ontario Agreement has long been in place under the Great Lakes Water Quality Agreement to specify federal and provincial implementation responsibilities in Canada. Such a mechanism is absent in the U.S. but is needed to clarify federal and state responsibilities and expectations. The Great Lakes Commission believes that the proposed U.S. Policy Committee arrangement is an important step in the right direction. A resolution to that effect was adopted by the Commission membership on the 4th of this month. (see Attachment 1).

The Status of Remedial Action Plans and Steps That Need to be Taken

In the view of the Great Lakes Commission, the Remedial Action Plan (RAP) process is both a timely and innovative means to move the notion of ecosystem management and remediation from the conceptual stage to application. The RAP process offers a methodical approach to problem definition; evaluation and selection of remedial actions; clean-up program design; and implementation. It also adds a much-needed element of accountability to the clean-up process in that plans require definition of responsible parties, a process for measuring the effectiveness of clean-up efforts and a timeline to accomplish goals.

While conceptually sound, the Remedial Action Plan process has been plagued by delays and procedural uncertainties that threaten to compromise the program's potential. The Great Lakes Commission believes that several measures should be considered to refine the process and avoid delays in implementation:

1) Difficulties in problem definition continue to be experienced throughout the

Remedial Action Plan process and are perhaps the most frequently cited reasons for delay in Plan development and implementation. The efforts of federal, state, and local interests to collectively define problems in Areas of Concern are hampered by differing interpretations of Great Lakes Water Quality Agreement language and such terms as "virtual elimination" and "zero discharge". With U.S. EPA leadership and participation by the Great Lakes states and other appropriate stakeholders, definitional problems should be addressed in earnest to expedite the RAP process.

2) **Federal legislation establishing firm but realistic target dates for RAP design and implementation should be seriously considered.**

3) **The problem of limited resources is pervasive among the Great Lakes states and efforts are being made to move forward with the Remedial Action Plan process as personnel and funds permit. Returning to the "partnership" theme developed earlier, it is clear that a greater federal presence is needed in the areas of technical and financial support to the states. Financial incentives to state and local governments and other stakeholder groups would be a sound and necessary investment with great returns over the long term.**

4) **While significant attention has been afforded to design and procedural issues in Remedial Action Plan development, too little attention has been paid to implementation and, in particular, the question of "Who should pay?". The Great Lakes Commission believes that a necessary next step is a concerted effort to identify and evaluate the range of creative financing options that might be available to shift the Remedial Action Plan focus from process to product.**

The Proposed Great Lakes Environmental Action Program (Great LEAP)

The Great Lakes Commission, by unanimous action on March 15 of last year, endorsed the Great Lakes Environmental Action Program (Great LEAP) proposed by the U.S. Army Corps of Engineers. (see Attachment 2).

The magnitude of the Great Lakes clean-up task demands the use of any and all available federal resources. The expansion of the U.S. Army Corps of Engineers' authority to this end is a sound idea that should be implemented with all due speed. Such authority should include an ability to conduct dredging for environmental remediation purposes in Great Lakes waters.

The Corps of Engineers is a water resources agency with a long-established role in planning engineering, construction, dredging and debris removal activities for flood control, navigation and shoreline erosion. One demonstration of its environmental enhancement capabilities was its role in the Environmental Management Program in the Upper Mississippi River, authorized under Section 1103 of the Water Resources Development Act of 1986. That program, which involves a federal/state partnership and focuses on habitat restoration and resource monitoring, stimulated the Great LEAP concept. The three basic facets of the proposed program include habitat enhancement (including wetland creation); remediation of chemically and physically degraded areas; and resource monitoring and data management.

The Great Lakes Commission urges the Congress to pass legislation that will expand the budgetary and geographic authority of the Corps to the extent needed to operationalize the Great LEAP. In so doing, the Commission recognizes that the success of such a program will depend upon its administrative and coordinative structure and the extent to which it addresses priority Great Lakes issues.

Specific Commission comments to guide the development of authorizing legislation and program implementation include:

1) Efforts under Great LEAP should be focused, to the maximum extent possible, upon activities in support of the Great Lakes Water Quality Agreement and, in particular, the Remedial Action Plan implementation process.

2) Corps priorities for Great LEAP projects should be consistent with, and in response to priorities established through a regional forum that includes the Great Lakes states, the U.S. EPA and other federal agencies with a role and responsibility in Great Lakes environmental management.

3) A formal structure should be established to involve the Great Lakes states in every aspect of the process for evaluation, selection and implementation of prospective Great LEAP projects.

4) Appropriations to support Corps implementation of Great LEAP should be adequate to meet the magnitude of the task without compromising other activities central to the Corps mission or impinging upon funds required by other federal agencies to support Remedial Action Plan efforts.

As an expression of its support for Great LEAP, the Great Lakes Commission has offered its resources and has directed its staff to assist in any manner possible to expedite program start-up and operation. The Commission recommends that authorizing legislation be introduced at the earliest possible time.

Status of Zebra Mussel Infestation in the Great Lakes

The zebra mussel infestation in the Great Lakes constitutes an environmental and economic "disaster in the making" and demands the full and concerted attention of elected officials and policymakers from the local to international level. The infestation problem has, unfortunately, been a cause for as much amusement as alarm in some sectors of the media and citizenry. One respected Great Lakes scientist, however, has been quoted as saying that environmental and economic impacts over the long term could exceed those associated with the *Exxon Valdez* disaster. If the infestation is left unchecked, damages in excess of four billion dollars over the next ten years have been estimated; this is approximately the annual economic value of the entire Great Lakes sport fishing industry. Costs associated with the cleaning of municipal and industrial water intakes, the locks at the Welland Canal and other structures have already run into tens of millions of dollars.

Crisis response measures for research, monitoring and control are already in place - to varying modest degrees - at the local, state, provincial and federal levels. Such efforts, however, are inadequate. They are piecemeal, poorly coordinated and directed almost exclusively at crises rather than long term control options. The effort - given the circumstances - has been laudable, but an immediate needs exists for a strong, action-oriented coordinate framework based in federal law and directed at application of control strategies. Until that need is addressed, the zebra mussel will continue to establish itself in the Great Lakes and move through Great Lakes tributaries into the nation's inland waters.

The Great Lakes Commission supports the intent of S. 2244, the Non-indigenous Aquatic Nuisance Act of 1990, and its House companion, H.R. 4214. These bills establish an aggressive program that provides a framework for multi-jurisdictional coordination and an appropriate balance between research, monitoring and control efforts. It also provides a means to anticipate and address any prospective impacts of other exotic species; an opportunity to escape from the "crisis-response" model that has characterized this issue thus far.

On May 29, the Great Lakes Commission joined with other public and citizen based organizations to urge immediate enactment of both titles of the Non-indigenous Exotic Species Act. We explained that enactment of Title I of the bill is particularly urgent because it will require action to ensure that other non-indigenous species cannot be introduced into our waters through ballast water dumping. In recent years the ruffe, the spiny water flea and the zebra mussel have been introduced into the Great Lakes. Within the last month researchers in the region have found the tube-nosed gobie there also. With the exception of the zebra mussel we have no idea what effects these newcomers will have on the Great Lakes. We do know that the economy and ecology of the regional would be very stressed by multiple nuisances like the zebra mussel.

We also explained that Title I requires the U.S. Coast Guard to promulgate regulations, with an enforcement mechanism, to prevent unintentional introduction of non-indigenous species into any U.S. port. Ballast water exchange on the high seas (beyond the 200 mile limit) is required unless or until better methods are developed. High-sea ballast exchange can be carried out while a ship is in transit and will greatly reduce the likelihood that nuisance species will be introduced into fresh or near-coastal water ports.

This is not just a Great Lakes issue; it's a national issue. Time is of the essence and broad-based Congressional support is needed. This legislation can be instrumental in mounting a coordinated, multi-agency and multi-jurisdictional attack at the regional and national levels. The Great Lakes Commission stands ready to assist in this effort in any way possible.

Closing Statement

The line between resource use and exploitation is a fine one, and our ability to protect and manage the Lakes over the long term is, literally, a billion dollar question. As indicated in the preceding statement, we are at a critical juncture in Great Lakes management; we are challenged not only with clean-up responsibilities for past and present transgressions, but by a need to anticipate and prevent future ones as well. We at the Great Lakes Commission urge you to fully recognize and support a strong and continuing federal role in Great Lakes research and management by supporting the critical programs and proposed initiatives outlined above.

ATTACHMENT #1

RESOLUTION

IMPROVING IMPLEMENTATION OF THE UNITED STATES/CANADA GREAT LAKES WATER QUALITY AGREEMENT

WHEREAS, the water resources of the Great Lakes are of vital importance to the citizens of the United States and Canada and are valuable regional, national and international public natural resources; and

WHEREAS, the Great Lakes are shared and held in trust by the citizens of the United States and Canada; and

WHEREAS, the United States is committed to the protection and enhancement of the Great Lakes and the nation's waters through the 1987 provisions of the Water Quality Act designed to restore and maintain the chemical, physical, and biological integrity of the waters of the Great Lakes Basin ecosystem; and

WHEREAS, the Boundary Waters Treaty of 1909, and the four agreements modifying the Agreement: the Great Lakes Water Quality Agreement of 1972; the Great Lakes Water Quality Agreement of 1978; the 1983 Supplement to the 1978 Agreement; and the 1987 Protocol to the 1978 Agreement, all acknowledge the importance of progressively working to protect and enhance the quality of the Great Lakes; and

WHEREAS, one of the primary focuses of the 1987 Protocol was the tightening of controls over the accountability and management of the efforts by the parties; and

WHEREAS, the U.S. General Accounting Agency, in its review of United States participation in the International Joint Commission and the Great Lakes Water Quality Agreement dated June 29, 1989, indicated that about one of every three major recommendations in the Agreement has not been implemented and identified a lack of communication regarding necessary remedial actions; and

WHEREAS, members of the public have been critical regarding the implementation of critical components of the Agreements, such as the virtual elimination of toxic contaminants, development and implementation of remedial action plans, and other components of the Agreements; and

WHEREAS, the Great Lakes States and the Great Lakes Commission are vitally concerned about the management, restoration and protection of the Great Lakes and progress that must be made through the implementation of the Water Quality Agreement to provide the needed protection and enhancement of the Great Lakes ecosystem; and

WHEREAS, currently an EPA regional office is charged with the responsibility for implementation of the Water Quality Agreement; and

NOW THEREFORE BE IT RESOLVED, that a U.S. Policy Committee be formally established by the Administrator to include senior policy officials from the Great Lakes states and appropriate federal agencies;

BE IT FURTHER RESOLVED, that the aforementioned Policy Committee shall be responsible for developing policies and advice to the Administrator regarding the implementation of the U.S. initiatives and responsibilities under the Great Lakes Water Quality Agreement.

BE IT FURTHER RESOLVED, that the Commission requests the U.S. Environmental Protection Agency Administrator to serve as Chair of such a United States Policy Committee.

Adopted by the Great Lakes Commission throught action of its Executive Committee on June 4, 1990.

ATTACHMENT #2

RESOLUTION

GREAT LAKES ENVIRONMENTAL ACTION PROGRAM
(Great LEAP)

WHEREAS, the North Central Division of the U.S. Army Corps of Engineers is examining the role the Corps might play in enhancing the environment of the Great Lakes Basin; and

WHEREAS, the Corps is a water resources agency with a traditional role of planning, engineering, construction, dredging and debris removal activities for flood control, navigation and shoreline erosion; and

WHEREAS, the Corps has the capability to apply federal environmental engineering expertise and construction capabilities to enhance the Great Lakes ecosystem; and

WHEREAS, the program concept consists of three basic facets

- o habitat enhancement, including wetland creation;
- o remediation of chemically and physically degraded areas;
- o resource monitoring and data management; and

WHEREAS, the Chicago, Detroit and Buffalo Corps districts are working with the Great Lakes states and the U.S. Fish and Wildlife Service to identify possible projects for the program and are coordinating with the U.S. Environmental Protection Agency, NOAA's Great Lakes Environmental Research Laboratory, the Great Lakes Fishery Commission and other agencies; and

WHEREAS, the Corps' North Central Division, through existing authorities and with active participation from federal, state and local agencies, hopes to implement projects that fulfill priority needs, are not duplicative of other activities and do not usurp other agencies' authorities.

NOW, THEREFORE, BE IT RESOLVED that the Great Lakes Commission supports the concept of the Great LEAP to significantly expand the U.S. Army Corps of Engineers' ability to serve the Great Lakes region; and

BE IT ALSO RESOLVED that the Commission advocates sufficient expansion of budget and geographic (but not regulatory) authority to allow full implementation of the Great LEAP; and

BE IT FINALLY RESOLVED that the Great Lakes Commission offers its resources and directs the Commission staff to work with the Corps, as appropriate, to facilitate the development of the Great LEAP and the implementation of habitat enhancement/remediation projects.

Unanimously adopted by the Great Lakes Commission on November 15, 1989.

United States Department of State

Washington, D.C. 20520

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Dear Mr. Chairman:

In accordance with 31 U.S.C. 720, the Department of State is hereby responding to the recommendations contained in the GAO report "State Department - Need to Reassess U.S. Participation in the International Joint Commission (GAO/NSIAD-89-164, June 1989)."

The report contained two recommendations and the State Department is prepared to implement both of them.

Recommendation 1. "We recommend that, to enhance the IJC's ability to carry out its oversight and evaluative mission, the Secretary of State, in conjunction with officials from the EPA, the Army Corps of Engineers, and other involved technical agencies, establish a formal mechanism to provide prompt U.S. responses to IJC's recommendations. Such responses should include either a confirmation that the U.S. agencies plan to implement a recommendation or an explanation of their rationale for rejecting the IJC's recommended course of action."

Response. The Department of State will coordinate the United States Government's responses to the recommendations contained in the IJC's biennial report to the governments. The responses will include either a confirmation to implement or an explanation of a rejection. The Department of State will consult with other involved U.S. agencies, including the EPA and the Army Corps of Engineers, to develop a procedure and timetable for the U.S. written responses to the IJC's biennial recommendations. We intend to provide to the Committee a description of this procedure and timetable within six months of the date of this letter with implementation effective as of that date.

The Honorable,
John Glenn, Chairman,
Committee on Governmental Affairs,
United States Senate.

Recommendation 2. "Because the role of the IJC has changed under successive water quality agreements since the original 1972 agreement, we recommend that the Secretary of State, with the assistance of officials from EPA, the Army Corps of Engineers, and other involved technical agencies, reevaluate U.S. participation in the IJC. Among the issues that should be included in this assessment are whether (1) the U.S. commissioners should be required to have technical backgrounds or expertise; (2) the size and composition of the IJC staff are appropriate for the current IJC mission; (3) improvements can be made in the methods used for collecting and aggregating data from the states; and (4) greater public involvement would help to achieve the IJC's goals and, if so, what the nature and extent of that involvement should be."

Response. The Department of State will coordinate a review of U.S. participation in the IJC in consultation with other interested U.S. Government agencies and taking into account the four points mentioned in the recommendation. This review should be completed within six months of the date of this letter.

As a final note, we want to state for the record that we believe it is misleading for the study to state categorically that the United States Government has not implemented fully one-third of the IJC's recommendations. In numerous cases, the USG has implemented corrective action other than direct implementation of the IJC recommendation.

Sincerely,

Janet G. Mullins
Janet G. Mullins
Assistant Secretary
Legislative Affairs

United States Department of State

Washington, D.C. 20520

APR 11 1990

Dear Mr. Chairman:

In October, the Department of State accepted both recommendations contained in the GAO report "State Department - Need to Reassess U.S. Participation in the International Joint Commission (GAO/NSIAD-89-164, June 1989)." In accepting those recommendations, the State Department agreed to (1) determine a mechanism to respond to International Joint Commission (IJC) recommendations and (2) conduct a review with other involved agencies of U.S. participation in the IJC. In the course of this effort, we have conferred with officials from EPA, the Army, the Army Corps of Engineers, the U.S. Fish and Wildlife Service, the U.S. Coast Guard, USDA, and NOAA. I am pleased at this time to forward the findings from our completion of the two recommendations.

Sincerely,

Janet G. Mullins
Assistant Secretary
Legislative Affairs

Enclosure: as noted

The Honorable
John Glenn, Chairman,
Committee on Governmental Affairs,
United States Senate.

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UNITED STATES PARTICIPATION IN THE INTERNATIONAL JOINT COMMISSION

A Response to the Government Accounting Office Report GAO/NSIAD-89-164 - STATE DEPARTMENT: Need to Reassess U.S. Participation in the International Joint Commission

In October 1989, the State Department accepted both recommendations of the Government Accounting Office in its report of June 1989, on the "Need to Reassess U.S. Participation in the International Joint Commission." In that response, the Department agreed to reply within six months with the procedures and reviews called for in the two recommendations.

Recommendation 1.

> "We recommend that, to enhance the IJC's ability to carry out its oversight and evaluative mission, the Secretary of State, in conjunction with officials from the EPA, the Army Corps of Engineers, and other involved technical agencies, establish a formal mechanism to provide prompt U.S. responses to IJC's recommendations. Such responses should include either a confirmation that the U.S. agencies plan to implement a recommendation or an explanation of their rationale for rejecting the IJC's recommended course of action."

Response

Written responses will be provided to the IJC's biennial and special recommendations as part of the U.S. biennial progress reports to the IJC required by the Great Lakes Water Quality Agreement. Recommendations that do not refer to the Great Lakes will be specially annotated. **The responses will include progress to date and/or intentions for implementation. If a decision was taken not to accept the IJC recommendation, the reasons for that decision will be stated.** Recommendations issued by the IJC less than three months prior to the issue date for a biennial progress report will be included in the next succeeding report. In the interest of timeliness, interim responses may be provided to special recommendations from the IJC outside their biennial reports.

Recommendation 2.

> "Because the role of the IJC has changed under successive water quality agreements since the original 1972 agreement, we recommend that the Secretary of State, with the assistance of officials from EPA, the Army Corps of Engineers, and other involved technical agencies, reevaluate U.S. participation in the IJC. Among the issues that should be included in this assessment are whether (1) the U.S. Commissioners should be required to have technical backgrounds or expertise; (2) the size and composition of the IJC staff are appropriate for the current IJC mission; (3) improvements can be made in the methods used for collecting and aggregating data from the states; and (4) greater public involvement would help to achieve the IJC's goals and, if so, what the nature and extent of that involvement should be."

Response

To adequately respond to this recommendation, the function of the International Joint Commission must be seen in historical perspective. The International Joint Commission (IJC) of the United States and Canada was brought into existence by the Boundary Waters Treaty of 1909 and held its first meeting on January 12, 1912. During its long service to both countries, it has performed a valued function as a binational body acting on an interested but impartial basis to answer questions referred by the United States and Canada on water and environmental issues.

Until the negotiation of the Great Lakes Water Quality Agreement (GLWQA) in 1972, the activity of the IJC was devoted to applications for water apportionment permits under the Commission's quasi-judicial powers, to specific references on transboundary pollution, and to the settlement of disputes. As a result of the negotiation of the GLWQA in 1972, renegotiation in 1978 and amending in 1983 and 1987, the IJC received expanded responsibilities in monitoring and assessing progress under the Agreement primarily on water and air quality. Investigative responsibilities consumed a greater proportion of IJC time and resources. The IJC investigated issues difficult to resolve in normal diplomatic processes, often involving complicated legal, engineering, and environmental questions such as cleanup of Niagara River toxic problems, phosphorous management studies, and pollution from land-use activities and related runoff. In each case, the IJC rendered a measured, nonbinding recommendation to the governments.

This determination of impartial, reasoned recommendations in difficult political waters was accomplished through the mechanism of both countries having an equal number of seats in the Commission and through the acceptance of the principle of binationalism wherein the Commission acts as a whole, not dividing along national lines. The Commissioners were recognized by their access to senior officials in both countries but they were also expected to determine just and practical resolutions independent of national prejudices.

The recommendations of the Commission are non-binding but were accepted in whole or in part by the governments because of the appropriateness of the recommendations and because of the acceptance that the Commission's solution probably represented the best solution for both governments -- in most cases, the governments would not have referred the question to the Commission had the governments been able to arrive at just solutions without the services of the Commission. Binding authority can be granted to the IJC in specific cases if needed through Article X. According to our investigation, that type of authority has never been called upon. Basically, it has not been necessary.

The form and authority of the Commission was the subject of a long and difficult negotiation. In the 1986 edition of John E. Carroll's Environmental Diplomacy, Carroll quotes a long-time IJC commissioner, Charles Ross, as noting "that the United States in 1909 would ever agree to participate in an international institution where its clout would be diluted by equal voting privileges marked a milestone in international relations. It was not an easy decision for the United States."

Carroll also referred to Secretary of State Root's letter of June 4, 1908, to British Ambassador Bryce as an attempt by the United States to extensively restrict the authority of the IJC during the negotiation of the Boundary Waters Treaty:

> "The difficulty of the United States in assenting to an agreement with the broad field described by the Gibbons-Clinton draft (of the treaty) shall be referred for final determination to such a commission as is proposed, is in the main that such questions necessarily involve, not merely questions of fact and of law suitable for the determination of a commission or arbitral tribunal but many questions of policy, of mutual concession and of the give and take which is in so great a number of cases the efficient means of reaching possible settlement of difficult controversies. Such questions of policy, of concession, of discretion, it is impossible for the Government of the United States to commit to any commission under our system of government."

In the end, the authority of the IJC as determined by the Boundary Waters Treaty reflected some of the thinking in the Root-Bryce letter, but even more the need for a sober, binational body to provide sound recommendations. The eventual compromise in giving the IJC more advisory than regulatory status has endured and has been successful.

The GAO report strikes a critical tone in its accounting of the number of IJC recommendations that have been accepted and implemented by the governments. Indeed, the first line of the basic report states, "We found that the U.S. government has not implemented many of the 56 recommendations made in the IJC's three biennial reports (dated 1982, 1984, and 1986) issued under the Great Lakes Water Quality Agreement (GLWQA) of 1978. Our review showed that about one of every three major recommendations has not been implemented." The GAO report clarifies that of the 56 recommendations, 29 have been implemented, 20 have not, and there is dispute between IJC and U.S. officials as to whether 3 others have been implemented. The GAO report itself identifies on page 4 specific reasons given by government officials why recommendations have not been implemented:

-- budgetary constraints,

-- U.S. agencies decided to fund their own projects rather than those of the IJC,

-- the two governments unilaterally or bilaterally decided that certain IJC recommendations should not be carried out or that it is better that projects be done within the context of their respective domestic programs,

-- implementation of IJC recommendations would go beyond the authority of applicable U.S. laws and regulations, and

-- U.S. agencies decided that financing binational projects outside the framework of the IJC would be more effective.

The GAO report does not present statistics on how often the water/environmental concern was resolved which is the key issue. The report focussed instead on how many IJC recommendations were accepted and how many were not.

Carroll, on page 52 of the above-mentioned text characterizes the entire history of the IJC in much more positive terms than does the GAO report. "The International Joint Commission has successfully enabled the two governments to avoid conflict and settle disputes. It has had 75 to 80 percent of its recommendations accepted by government, and these recommendations have stood up over time. Maxwell Cohen attributes the Commission's success as deriving from 'common fact-finding by technical peers sitting in equal numbers and seeking a commonly accepted solution under a permanently organized and impartial umbrella.' It has enabled the sharing of boundary waters while simultaneously minimizing obstruction to development in the boundary regions. It has exercised, although with some hesitation, a general mandate to alert government to coming problems."

Carroll continues, "Also contributing to the Commission's success is its advisory rather than policy-making or regulatory role. While the institution does require sufficient support to provide independent advice and recommendations necessary to solve problems, it can easily defeat its purpose if it fails to recognize the limits of its role or permits itself to be used by the public to avoid legitimate national policies. Its role has been that of an advisor rather than a participant, in keeping with the treaty's purpose of preventing and avoiding controversy. Its dominant power, therefore, relies upon the force of its technical and moral position rather than upon economic or political imperialism."

This advisory nature of the IJC with its practice over the years of providing sound binational recommendations on politically sensitive water issues has formed the basis of our participation in the IJC and accounts in great part for the success of the IJC over its long life.

Four Specific Points Raised by the GAO Report

1. Whether the U.S. Commissioners should be required to have technical backgrounds or expertise.

Response: There should be no such requirement. Commissioners with technical backgrounds have distinct advantages in examining the increasingly technical nature of the questions referred to the IJC. However, the decisions to be handed down by the Commission are never completely technical; the political element is equally, if not more, important. The primary qualification of the Commissioners is the ability to make sound, sensitive recommendations on particularly thorny questions whether the individuals have technical or non-technical backgrounds.

2. Whether improvements can be made in the methods used for collecting and aggregating data from the states.

Response: The IJC staff members are highly-skilled and conversant in their areas of expertise. They are to be commended for their ingenuity and perseverance in collecting and aggregating data of debatable accuracy and consistency. The Commission discussed this subject at length, most recently in its Fourth Biennial Report issued in March 1989:

> "The Commission has traditionally used as its main source whatever data the Parties and jurisdictions provided. Time and resources are consumed to complete, correct and interpret those data to allow even the most elementary of comparisons and analyses. The data received are often inaccurate and incomplete, and, as discussed in the Third Biennial Report, much of the data is not helpful in assessing how well the Parties are achieving the goals and purposes of the Agreement. A specific example cited was, and continues to be, information on limits on discharges in various permits and control orders, and how those limits relate to specific objectives under the Agreement and the ecological responses of Great Lakes biotic communities.
>
> ....
>
> An assessment of the condition of the lakes cannot be any better than the information on which it is based. Assembling and analyzing available information require comparative and integrative studies of multiple data sets from several investigators, with data collected at different times and possibly under different protocols. Studies of multiple data sets raise issues of data comparability and compatibility, as well as the treatment of outliers (data elements which have excessively high or low values relative to some perceived behavior of other data being collected.) Various Commission-sponsored studies continue to reveal wide variances in accuracy, consistency and form. Furthermore, there are problems with obtaining data in a timely manner due to lengthy delays in the Parties' and jurisdictions' own data verification process."

The Parties fully realize the inadequacies of the data and have established a technical data group to prepare a working paper for the June 1990 meeting between the Parties. The IJC's Science Advisory Board is also examining the scientific adequacy of the data. The need for coordination with the IJC is readily apparent in defining the parameters of the data to be supplied.

3. Whether the size and composition of the IJC staff are appropriate for the current IJC mission.

Response: The IJC staff is lean. The composition appears quite appropriate. The members of IJC staff are, as we noted above, highly skilled, dedicated individuals. They have appropriate training and experience in their areas of expertise. More staff could always be accommodated and would improve the services provided by the staff, particularly regarding data collection and analysis by the IJC Windsor office but also concerning the evaluation of programs and legislation. The outcomes of the studies mentioned above on the data question will influence whether additional staff should be recommended for this function in the Windsor office.

Expanded responsibilities resulting from the most recent amending of the Great Lakes Water Quality Agreement and data accuracy and inconsistency have direct impacts on the workload as the Commission noted in its Fourth Biennial Report issued in March 1989:

> "The Protocol signed on November 18, 1987 amended the 1978 Great Lakes Water Quality Agreement so as to confer new, specific obligations on the International Joint Commission. The overall workload of the Commission will increase substantially in light of its several new responsibilities to review and evaluate programs of the Parties. The Commission expects that the Parties in consultation with the States and Provinces will also assume greater responsibility for some tasks which previously fell to the Commission, due either to the Protocol itself or the maturation of functions such as data coordination to a degree that the Commission neither needs to nor has sufficient resources to undertake."

4. Whether greater public involvement would help to achieve the IJC's goals and, if so, what the nature and extent of that involvement should be.

Response: The IJC recognized the need to increase public awareness of its functions and activities and the need for better communication with the public. To that end, the IJC has already implemented a number of activities to increase public participation in its functions since the publication of the GAO report. These measures were particularly evident at the IJC's biennial meeting in Hamilton, Ontario in October 1989. During its business session, the Commission opened the floor for general comment from the public. More than 125 individuals took turns at expressing directly to the Commission their own or their groups' opinions on a wide range of US/Canadian water/environmental issues. The most common issue was the water quality of the Great Lakes. While some speakers mistakenly ascribed to the Commission policy control on a number of regulatory matters, most expressed genuine concern about issues of a great personal interest. The Commission sat for over 10 hours over two days hearing these concerns.

The day after the biennial meeting on October 14, 1989, the IJC stayed on in Hamilton to hold a set of two public meetings on its Great Lakes Water Levels Project. The first meeting was a live call-in television program broadcast over a reported 40-50 television stations. The Commissioners and a number of government officials, outside experts and interested members of the public discussed the project on camera and responded to viewers' phoned-in questions at a bank of telephones. The second water levels program was a public meeting later that day in the Hamilton City Council chambers where Commissioners and experts/officials entertained questions and comments from the public.

The Hamilton meeting was also noteworthy in the selection of a keynote speaker from a major environmental group. Joyce McLean, Great Lakes Coordinator for Greenpeace International, addressed the opening session and discussed her organization's activities and concerns about Great Lakes water and air pollution.

We applaud the accomplishments of the IJC in this regard over the past few months and encourage the further use of the formats and responsiveness represented at the Hamilton meeting.

United States General Accounting Office

GAO

Report to the Chairman, Committee on
Governmental Affairs, U.S. Senate

June 1989

STATE DEPARTMENT

Need to Reassess U.S. Participation in the International Joint Commission

GAO/NSIAD-89-164

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-206437

June 29, 1989

The Honorable John Glenn
Chairman, Committee on
Governmental Affairs
United States Senate

Dear Mr. Chairman:

In response to your request, we reviewed U.S. participation in the International Joint Commission (IJC) and the Great Lakes Water Quality Agreement of 1978 between the United States and Canada. Our review focused primarily on the extent to which the Commission's recommendations have been implemented and the factors that should be addressed in considering the IJC's changing role and U.S. participation.

Results in Brief

We found that the U.S. government has not implemented many of the 56 recommendations made in the IJC's three biennial reports (dated 1982, 1984, and 1986) issued under the Great Lakes Water Quality Agreement (GLWQA) of 1978. Our review showed that about one of every three major recommendations has not been implemented. U.S. and Canadian government officials often do not advise the IJC in writing concerning the actions being taken or planned on its recommendations.

The U.S. government has not made a thorough review of U.S. participation in the IJC since 1972, and we believe that such a review would be useful. Our work identified several matters that should be addressed during such a review.

Background

The IJC, a U.S.-Canadian binational organization, was established as part of the Boundary Waters Treaty of 1909. The treaty also established the general U.S.-Canadian commitment to cooperatively protect all shared waters, resolve problems along the two countries' border, and address other issues of mutual concern. The IJC consists of six commissioners: three from the United States and three from Canada. The three U.S. commissioners are appointed by the President with the advice and consent of the U.S. Senate.

The IJC has three offices: the U.S. Section Office in Washington, D.C.; the Canadian Section Office in Ottawa, Canada; and the Great Lakes Regional Office in Windsor, Canada. The IJC has 68 staff positions in total, not including the six commissioners. The U.S. budget for its participation in the IJC for fiscal year 1988 was about $3.6 million. The U.S. and Canadian governments share the cost of the IJC equally.

The IJC's mission is to monitor the progress of the two governments in fulfilling their obligations under the 1909 treaty and subsequent agreements. The traditional activities of the Commission include (1) reviewing applications submitted to the IJC for authorization of obstructions, uses, or diversion of boundary water that will affect the natural level or flow on the other side of the international boundary and (2) assessing questions or matters of difference along the common border referred to the IJC for review by the two governments.

In the decades following the signing of the 1909 treaty, the deteriorating quality of the water in the Great Lakes became a problem of increasing importance for the IJC. Mounting concern culminated in the signing of four additional agreements that modified the scope of the 1909 treaty and/or altered the mission of the IJC. They are (1) the Great Lakes Water Quality Agreement of 1972, (2) the Great Lakes Water Quality Agreement of 1978, (3) the 1983 Supplement to the 1978 Agreement, and (4) the 1987 Protocol to the 1978 Agreement.

Under the 1972 agreement, the mission of the IJC was fundamentally altered. The IJC was charged with the responsibility for (1) collecting, analyzing, and disseminating information on the operations and effectiveness of the governments' programs and other measures to improve the water quality of the Great Lakes; (2) tendering advice and recommendations to federal and state or provincial governments for dealing with water quality problems; and (3) assisting in the coordination of joint efforts to control pollution of these boundary waters, including the discharge of phosphorus into the lakes.

The agreement also created two advisory boards, the Great Lakes Water Quality Board and the Great Lakes Science Advisory Board, to provide the IJC expert advice and data on water quality issues. The Water Quality Board is composed of 10 American and 10 Canadian water quality experts employed by either the state, provincial, or national government. It serves as the IJC's principal adviser on matters pertaining to the agreement. The 18-member Science Advisory Board is composed mainly of government or university scientists. It advises the IJC on research and scientific matters. The IJC's Great Lakes Regional Office in Windsor was established under the terms of the 1972 agreement to support the IJC's two Great Lakes advisory boards.

The 1978 agreement changed the scope of the IJC's mission even more. Under this agreement, the two countries committed themselves to the general objectives of (1) the "virtual elimination" of toxic contaminants and (2) the cleanup of conventional pollutants, using an ecosystem approach. This agreement gave the IJC responsibility for evaluating progress made in meeting the general and specific objectives of the agreement. The specific objectives included identifying and monitoring the accumulation of particular toxic materials that were entering the lakes and instituting measures to eliminate them from the ecosystem. The IJC was also charged with biennially reporting on the status of the quality of the water in the lakes. The 1983 supplement set target levels for reducing the discharge of phosphorus into the lakes.

The 1987 protocol focused on two themes: updating the 1978 agreement to reflect technical knowledge gained since it was signed and tightening control over the accountability and management of the pollution control projects by the two countries. To further these ends, the protocol adopted the IJC's remedial action plan concept for improving water quality in polluted areas.

The protocol again increased the IJC's areas of responsibility. In addition to monitoring the progress of the two governments in identifying and reducing such sources of toxic pollution in the Great Lakes as municipal and industrial discharge, the IJC was now required by the protocol to monitor the progress of the two governments in addressing airborne sources of toxic materials and pollution from contaminated groundwater as well.

The 1987 protocol, however, also narrowed the IJC's role. In the past, Canadian and U.S. officials believed that the IJC had become too involved in the management of day-to-day operations of projects at the expense of its independent oversight review function. The 1987 protocol was designed in part to correct this by more clearly limiting the IJC's role to that of an evaluator. For instance, under the protocol, the governments were specifically charged with implementing and managing the remedial action plans, while the IJC was specifically limited to evaluating progress made in attaining each plan's objectives.

U.S. Implementation of IJC Recommendations

The U.S. government has not fully implemented a number of the recommendations made by the IJC in its biennial reports on water quality, nor has it acknowledged or responded to many of these IJC recommendations. These recommendations covered a range of issues from the very specific and technical, such as changing the criteria used to measure the health risks associated with the transport of toxic chemicals, to very broad issues, such as expanding the definition of what is included in the Great Lakes ecosystem.

We found that 29 (52 percent) of the 56 recommendations in these reports[1] have been implemented, 20 (36 percent) have not been implemented, 4 (7 percent) have been partially implemented, and there is disagreement between IJC and U.S. officials as to whether 3 others have been implemented. According to some U.S. officials, the U.S. government has not implemented IJC recommendations for the following reasons:

- budgetary constraints,
- U.S. agencies decided to fund their own projects rather than those of the IJC,
- the two governments unilaterally or bilaterally decided that certain IJC recommendations should not be carried out or that it is better that projects be done within the context of their respective domestic programs,
- implementation of IJC recommendations would go beyond the authority of applicable U.S. laws and regulations, and
- U.S. agencies decided that financing binational projects outside the framework of the IJC would be more effective.

Lack of U.S. Feedback to IJC on Recommendations

U.S. officials do not routinely notify the IJC in writing what actions, if any, are being taken or are planned in response to IJC recommendations. In a 1982 report, we indicated that without adequate feedback from the U.S. agencies to whom the State Department refers the IJC's recommendations (primarily the Environmental Protection Agency (EPA), but also the Department of Agriculture, the Army Corps of Engineers, and others), the IJC's effectiveness in advising the two governments was being hampered.[2] We noted that a lack of response had frustrated the

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[1] In its three biennial reports (dated 1982, 1984, and 1986), the IJC made 59 recommendations, 3 of which are now considered out of date by the IJC.

[2] International Joint Commission Water Quality Activities Need Greater U.S. Government Support and Involvement (GAO/CED-82-97, June 23, 1982).

IJC's attempts to set research priorities and that IJC officials had complained repeatedly that without government feedback on its recommendations, they lacked the information needed to develop more meaningful reports.

Our report also noted that providing formal written feedback on IJC reports and recommendations could offer a number of benefits, including

- greater accountability between the United States and Canada because each government would document its position on important issues;
- improved IJC accountability to the governments, which might improve the quality and timeliness of reports and help IJC to better manage resources;
- greater accountability to the U.S. agencies for the time their personnel spend on IJC technical board activities; and
- greater incentive for U.S. agency personnel to participate in IJC activities and to see results from their efforts.

In response to our 1982 report, State said that the U.S. preparation of responses was systematic and timely. However, our review showed that the Department of State had not responded in writing, in one form or another, to 20, or about 34 percent, of the 59 recommendations made by the Commission. According to one U.S. official, the Canadians also did not respond in writing to every IJC recommendation. The 1909 treaty and subsequent water quality agreements do not require the governments to respond to IJC recommendations, and Department of State and EPA officials told us they are reluctant to formally respond to all IJC recommendations.

The Department of State and EPA officials believe that such a requirement could hinder the decision-making process in choosing between implementing IJC-recommended projects and implementing Great Lakes projects as part of a nationwide program. They noted that if the U.S. government is required to respond, the United States may be put into the position of formally opposing a particular recommendation favored by Canada, or vice versa. According to the officials, it might be better to resolve the problem through informal bilateral discussions of the issues. However, such discussions could be held before formally responding to the IJC.

The Department of State and EPA officials told us that if formal responses were required, they could best be incorporated into the U.S.

government's existing reporting obligations. The U.S. biennial reports to the IJC, required under the terms of the 1987 protocol, were suggested as a possible forum for the U.S. government to respond to the recommendations.

Changing Role of the IJC and U.S. Participation

A recent report of the House Committee on Foreign Affairs concluded that during this time of budgetary constraints it is important for the executive branch to review U.S. participation in international and bilateral commissions to ensure that continued participation in all such organizations remains important and continues to serve U.S. foreign policy interests.

Although the scope of the IJC's mission has changed substantially since the first water quality agreement was signed in 1972, the involved U.S. agencies have not thoroughly reviewed U.S. participation in the IJC since then. EPA's Acting Deputy Associate Administrator for International Activities expressed the view that a new assessment was warranted in light of the IJC's current mission.

During our review we identified the following issues that may warrant attention in any such assessment: (1) despite changes in the IJC's role, its U.S. staffing level has remained unchanged since 1982; (2) some observers believe that the commissioners should have technical or environmental expertise; (3) although the level of public participation and involvement in IJC activities has increased somewhat in recent years and has had positive results, it is still limited; and (4) IJC officials believe that the lack of comparable data from the states on the Great Lakes' water quality has impeded their evaluations.

Organization and Staffing of the IJC

The IJC and U.S. agency officials we interviewed generally agreed that the IJC is only as effective as the U.S. and Canadian governments are willing to allow. To be effective and efficient, the IJC needs to have proper organization, sufficient resources to carry out its mission, and qualified leadership.

The organization of the IJC and the size of its U.S. staff have not changed since 1982 despite the Commission's changing mission. In 1988, IJC requested a staff increase of eight positions to meet its expanded surveillance responsibilities and carry out its evaluative role, as required by the 1987 protocol. The State Department rejected this request due to general budget constraints. However, no analysis of the IJC's specific request for additional staffing was performed.

To provide the needed leadership in addressing the increasingly complex issues being evaluated by the IJC, a number of IJC and U.S. officials believe that IJC commissioners need a balance of environmental experience, technical expertise—in such fields as hydrology or engineering—and the political acumen to pragmatically deal with the issues that IJC faces. They believe that because environmental issues have become more complex, the commissioners now need greater expertise to strike a balance between environmental goals and the political and fiscal realities of cleanup programs.

U.S. officials acknowledge that such technical competence has not been a strong attribute of U.S. commissioners. The current three U.S. commissioners do not have any technical or environmental expertise. Only one of the past three U.S. co-chairmen has had environmental experience. However, no requirement exists that sets forth the nature or level of technical expertise or professional background and experience that a commissioner should have. By way of comparison, the commissioners of the International Boundary and Water Commission for the United States and Mexico must be technically qualified engineers, according to the 1944 Water Utilization Treaty.

However, other officials stated that those advocating environmental or related technical experience as a necessary prerequisite for the commissioners overlook the fact that the IJC has broad responsibilities in other areas that do not require the commissioners to have such backgrounds, because they can rely on their technical advisers. They believe the IJC fulfills the same function as a nonbinding mediator between the two governments. In their view, it is more important for the commissioners to have diplomatic and political skills to carry out this function.

The Role of the Public in the IJC

The public's access to, and involvement in, the activities of the IJC has increased somewhat in recent years but is still minor. The IJC co-chairmen have generally opposed increasing public participation or representation because they believe that the level of public participation is sufficient already. They point out that the commissioners individually accept invitations to speak to various interested public groups around the lakes. Also, the public was able to comment on the proposed U.S. amendments to the 1978 GLWQA through an unprecedented series of public meetings around the lakes in 1986. Furthermore, a public adviser was added to the team that negotiated the 1987 protocol, and many of the changes he suggested were adopted. Finally, the Water Quality Board adopted a policy of obtaining public comments on any proposed change in a specific water quality objective.

However, some IJC officials believe that greater public representation on the IJC's Water Quality Board would improve the effectiveness of U.S. participation in the IJC by improving the quality of advice the board provides the commissioners. They cited the fact that members of the board, as it is presently constituted, face an inherent conflict of interest because each of them represents an agency whose programs the Water Quality Board is to evaluate.

According to some of these officials, the quality of advice provided to the commissioners has suffered as a consequence of this inherent conflict of interest. They believe the quality of advice would be improved if the board included members who represented the public's perspective, because they would promote a more objective discussion of what is in the best interest of the Great Lakes. In their view, public representatives would do this by preventing the board members from recommending to the commissioners only those actions compatible with their respective agencies' agendas.

Data Problems

The Great Lakes Water Quality Agreement of 1978, as amended, calls for the governments to seek the cooperation of the states in providing the information needed to measure local and whole lake response to control efforts. The use of common data formats by the federal and state governments would facilitate the coordinated surveillance and monitoring efforts needed to assess compliance with pollution control requirements and would aid the IJC in evaluating the progress being made towards achieving the agreement's objectives.

IJC officials told us that the lack of a common data base had affected the timeliness of their products and their confidence level in the accuracy of their data. Since the eight Great Lakes states[3] are not parties to either the treaty or the GLWQA, the IJC is dependent on their willingness to voluntarily supply the data the IJC needs to make its water quality assessments. The IJC officials complained that they had experienced problems in collecting comparable data from the states.

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[3] Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin.

One IJC expert said that it generally takes 4 years to complete a report on the general health of any one of the Great Lakes, mainly because the lack of a common data base impedes IJC's analysis. Compiling the data and putting it into usable form takes considerable time and effort because IJC receives different kinds of data and/or the data comes in a variety of formats.

Conclusions

There are a number of reasons why the United States has not implemented certain IJC recommendations. However, the U.S. government does not provide the IJC with systematic and timely responses to these recommendations. We believe that such responses could provide a number of benefits.

The scope of the IJC's mission has changed under the terms of successive water quality agreements reached since 1972. The environmental problems IJC addresses have become more complex and technical; however, U.S. agencies have not reviewed U.S. participation in the commission for 17 years.

Recommendations

We recommend that, to enhance the IJC's ability to carry out its oversight and evaluative mission, the Secretary of State, in conjunction with officials from the EPA, the Army Corps of Engineers, and other involved technical agencies, establish a formal mechanism to provide prompt U.S. responses to IJC's recommendations. Such responses should include either a confirmation that the U.S. agencies plan to implement a recommendation or an explanation of their rationale for rejecting the IJC's recommended course of action.

Because the role of the IJC has changed under successive water quality agreements since the original 1972 agreement, we recommend that the Secretary of State, with the assistance of officials from EPA, the Army Corps of Engineers, and other involved technical agencies, reevaluate U.S. participation in the IJC. Among the issues that should be included in this assessment are whether (1) the U.S. commissioners should be required to have technical backgrounds or expertise; (2) the size and composition of the IJC staff are appropriate for the current IJC mission; (3) improvements can be made in the methods used for collecting and aggregating data from the states; and (4) greater public involvement would help to achieve the IJC's goals and, if so, what the nature and extent of that involvement should be.

Objective, Scope, and Methodology

Our review of U.S. participation in the IJC was undertaken at the request of the Chairman, Senate Committee on Governmental Affairs. The objectives of our review were to (1) evaluate the extent to which recommendations made by the IJC to the U.S. government under the terms of the 1978 agreement have been implemented and (2) ascertain the factors that may be impeding the effectiveness of U.S. participation in the IJC. As requested, we also developed information to answer the Chairman's six specific questions. The questions and answers are in appendix I.

Our review, which was conducted between September 1988 and March 1989, was performed in accordance with generally accepted government auditing standards. We interviewed and collected information from officials of the Department of State, EPA, and the Army Corps of Engineers Headquarters. We also interviewed and obtained documents from IJC officials at the American Section Office in Washington, D.C.; the Canadian Section Office in Ottawa, Canada; and the Great Lakes Regional Office in Windsor, Canada. Furthermore, we received responses from environmental officials of five of the eight states bordering the Great Lakes, and we talked to representatives from five public and environmental interest groups.

As requested, we did not obtain formal agency comments on our report. However, we discussed the information contained in this report with EPA and State Department officials, and their comments have been incorporated throughout the report.

Unless you publicly release its contents sooner, we plan no further distribution of the report until 30 days from its issue date. At that time, we will send copies of the report to the Department of State, the U.S. Co-Chairman of the IJC, the Environmental Protection Agency, the Army Corps of Engineers, and other interested parties. We will also make copies available to others upon request.

This report was prepared under the direction of Joseph E. Kelley, Director, Security and International Relations Issues. Other major contributors are listed in appendix II.

Sincerely yours,

Frank C Conahan

Frank C. Conahan
Assistant Comptroller General

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Abbreviations

EPA	Environmental Protection Agency
GAO	General Accounting Office
GLWQA	Great Lakes Water Quality Agreement
IJC	International Joint Commission

Response to Chairman Glenn's Specific Questions

1. To what extent have the State Department and other U.S. agencies, including the Environmental Protection Agency (EPA) and the Army Corps of Engineers, taken action on the International Joint Commission's (IJC) recommendations?

The U.S. government has not implemented many of the recommendations made in the IJC's three biennial reports (dated 1982, 1984, and 1986) issued under the Great Lakes Water Quality Agreement (GLWQA) of 1978. We found that 29 (52 percent) of the 56 recommendations in these reports have been implemented, 20 (36 percent) have not been implemented, 4 (7 percent) have been partially implemented, and there is disagreement between IJC and U.S. officials on whether 3 others have been implemented. Three additional recommendations are now considered out of date by the IJC.

By implementation, we mean that evidence exists to suggest that programs or plans have been, or are being, executed by the U.S. government, or statutes have been enacted to correct the specific problems identified in the recommendations. The evidence we examined included the State Department's general responses to the three biennial IJC reports, the provisions of the 1987 protocol amending the GLWQA of 1978, and two EPA draft reports on water quality. The two EPA reports are the draft 1988 annual report to Congress under the terms of the 1987 Water Quality Act and the draft of its first biennial progress report to the IJC under the terms of the 1987 protocol. Our findings on the extent to which the IJC recommendations have been implemented were corroborated by IJC and EPA officials.

We categorized each of the Commission's recommendations under one of the five following subject headings:

- Toxic waste disposal. Eight of 12 recommendations were implemented, 1 has been partially implemented, 2 have not been implemented, and 1 is in dispute.
- Research, surveillance, and monitoring of the Great Lakes. Seven of 13 recommendations have been implemented; the remaining 6 have not.
- Greater state and federal coordination. Two of 9 recommendations have been implemented, 6 have not been implemented, and 1 is in dispute.
- Greater U.S.-Canadian cooperation. One of the 2 recommendations in this category has not been implemented, and 1 is disputed.
- Proposed changes to the GLWQA. Thirteen of 20 recommendations concerning the GLWQA were adopted in the 1987 protocol, 3 were partially implemented, and 4 have not been implemented.

According to U.S. officials, the United States had not implemented a number of these IJC recommendations for the following reasons:

- budgetary constraints;
- the governments decided that it was better to fund projects within the context of their respective domestic programs, rather than those of the IJC;
- the U.S. government unilaterally, or bilaterally with the Canadian government, decided that certain IJC recommendations should not be carried out;
- IJC recommendations called for actions that went beyond the authority of applicable domestic laws and regulations; and
- financing binational projects outside the framework of the IJC was considered to be a more effective approach.

The primary reason cited was the lack of money. In the view of many IJC and U.S. officials, overall agency budget constraints of the last 8 years have impaired both the EPA and the Army Corps of Engineers in making the larger commitments of resources that carrying out IJC recommendations would entail.

U.S. officials stated that the IJC sometimes recommends programs for the Great Lakes that would be better handled in the context of domestic environmental programs, because the IJC's cleanup programs, such as the remedial action plans, do not take nationwide environmental priorities and budget constraints into account. The IJC sometimes calls for projects that could be implemented only at the expense of environmental concerns elsewhere in the United States, while the EPA and other agencies design programs to take national environmental priorities into account. For example, these officials said that domestic, nationwide environmental programs such as those authorized by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (commonly known as Superfund) are designed to balance the needs of the Great Lakes region with the needs of the rest of the nation.

Some IJC recommendations are not implemented because either the United States or Canada, or both nations together, decide it is not in their interest to do so. According to one U.S. official, one nation or the other may show tacit disapproval simply by not responding to a recommendation. Furthermore, both nations may have to act in concert to implement some of the recommendations. One country may indicate a willingness to carry out a recommendation, but it can proceed only if the other country agrees as well. Still other IJC recommendations may not be implemented because they are simply not compatible with domestic U.S. laws and regulations.

In some cases, the United States and Canada have entered into separate bilateral arrangements rather than carry out a project under the IJC auspices. The three most prominent of these bilateral arrangements concern the Niagara River cleanup, the Lake Ontario discharge reduction plan, and the Upper Great Lakes connecting channel study. A former IJC official stated that these agreements stemmed from a desire by the respective environmental agencies of the United States and Canada to develop plans and projects more in line with the agencies' priorities and timetables, rather than those of the IJC.

Government officials countered by saying that they wanted these projects handled in a context separate from the IJC for a number of reasons. For instance, the governments set more specific and attainable interim goals for these projects than do the IJC's remedial action plans, which only restate the GLWQA's ultimate objective of "virtual elimination" of persistent toxic substances. Furthermore, the government officials said that a project under the IJC would generally not have as much detail or proceed as rapidly as separate binational projects. They said that the bilateral plans did a better job of coordinating the local remedial action plans than the IJC could or would have.

2. What are the reasons for any inaction on the part of U.S. agencies in responding to Commission recommendations?

In 1982, we reported that the lack of formal U.S. responses to IJC recommendations had hampered IJC's effectiveness in advising the two governments. When asked to comment on our report in 1983 hearings before the Senate Committee on Foreign Relations, the State Department testified that "the United States has been responsive to the recommendations and reports of the Commission. Preparation of responses is systematic and timely."

However, our review showed that the U.S. government has not acknowledged or responded to many of the recommendations made in the IJC's three biennial reports issued under the 1978 GLWQA. The State Department has formally responded to 39 (66 percent) of the 59 recommendations made by the full Commission. According to a U.S. official, the Canadian government has also not responded in writing to all of IJC's recommendations.

The Department of State and EPA officials are reluctant to formally respond to all IJC recommendations. They believe that such a requirement could hinder the decision-making process in choosing between implementing IJC-recommended projects and implementing Great Lakes projects that are part of a nationwide program. They contend that if the U.S. government is required to respond, the United States may be put into the position of formally opposing a particular recommendation favored by Canada, or vice versa. According to the officials, this may put one country openly in contention with the other, when informal discussion of the issues concerned could resolve the problem quietly.

One individual we interviewed said that requiring the U.S. government to formally respond to IJC recommendations could hinder the decision-making process in another way. He was concerned that agency officials would hesitate to formally and categorically reject even an invalid IJC recommendation because such an action could undermine the credibility and prestige of the IJC.

However, both the Department of State and EPA officials believe that, if necessary, formal responses could best be incorporated into the U.S. government's existing report obligations. The biennial reports of the two governments to the IJC on its progress in developing and implementing the remedial action plans required under the terms of the 1987 protocol were suggested as a possible forum for the U.S. government to respond to the recommendations.

There is no provision in the Boundary Waters Treaty of 1909, which established the IJC, or in any subsequent agreements that requires the governments to respond to IJC recommendations.

3. Can the Commission be provided with more autonomy to implement its recommendations and to plan future programs, and if so how?

According to U.S. officials, the 1987 protocol resulted from the belief of Canadian and American officials that the IJC had become too involved in the management of day-to-day operations of projects at the expense of its impartial review function. This belief stemmed from the fact that the IJC's scope was not clearly limited in the earlier water quality agreements. The 1987 protocol was designed to distinguish between the management role of the government agencies and the review function of the IJC by explicitly making the governments responsible for setting specific water quality objectives and by reinforcing the IJC's evaluative function.

For example, the 1978 agreement had required the responsible regulatory agencies to report to the IJC, in all available detail, their plans for areas designated as candidates to receive specific water quality attention. The IJC could comment on any aspect of the plans, and the regulatory agency was responsible for taking into account the IJC's comments prior to making any formal designation of the areas to receive attention. If no comments were received from the IJC within 60 days, it was assumed that the IJC agreed with the proposed designation, and the regulatory agency could proceed. However, the 1987 protocol revised this provision to say that the IJC "in its evaluative role, shall review" the progress being made in cleaning up the lakes and make recommendations to the two governments.

The IJC and U.S. officials we interviewed generally agreed that the IJC has sufficient autonomy. However, views differ as to whether the IJC is using its autonomy to carry out its mission effectively. These views have depended on what is considered the appropriate role for the IJC. Generally, those who believe the IJC's mission is to be an adviser and facilitator for the two governments told us that the IJC is using its autonomy effectively. Those who assert that the IJC should be an environmental advocate believe it is not effectively using what autonomy it has.

Some believe that the IJC's effectiveness lies in providing the two governments a proven forum in which complicated transboundary disputes can be resolved in such a way that the good working relationship between both nations is preserved. They believe its effectiveness is best judged in terms of the role model it provides for other countries and for other aspects of U.S.-Canadian relations.

According to some IJC officials, most criticism of the IJC in general, and of its commissioners in particular, stems from the belief that the IJC should be an environmental advocate and thus that environmental or related technical experience is a necessary prerequisite for the commissioners. One official pointed out that these critics overlook the fact that the IJC has broad responsibilities in other areas, including monitoring water levels and judging water rights. According to some U.S. officials, the IJC fulfills the same function as a nonbinding mediator between the two governments. They say this function requires that the commissioners have diplomatic and political skills.

Some who want the IJC to take a stronger environmental advocacy role believe that IJC's primary mission, as redefined by the GLWQA, is to act in the best interests of the Great Lakes. In their opinion, the IJC can best do that by raising the consciousness of the public and by engaging it in the cleanup process.

A representative of a public action group concerned with the Great Lakes said that the IJC has enough autonomy; he cited the success of the IJC in developing the remedial action plan concept and getting the local jurisdictions and national governments to adopt the idea. He believes the problem is in getting the IJC commissioners to use their autonomy consistently. In his view, the IJC has the authority and resources to carry out its environmental advocacy responsibility reasonably well, but its commissioners often fail to assert that authority.

What is not disputed is that the IJC is only as effective as the national governments are willing to allow, and its influence is determined by the recommendations the governments are willing to implement. The IJC has no authority to implement or enforce its recommendations; that is strictly the prerogative of the national governments, and that prerogative was reinforced by the 1987 protocol.

4. Has the State Department implemented the 1978 GAO report's accounting suggestions, and have improvements been made in the timeliness and quality of U.S. participation in Commission studies?

In a 1978 report[1] we recommended that the Secretary of State (1) establish a separate fund to help ensure availability of money to promptly begin needed studies that had not been requested at the time the budget was prepared and (2) include direct funding of IJC board activities in the Department of State budget submission to the Congress. We also stated that other agency budgets should no longer include separate funds for Commission studies.

The first recommendation was implemented. In 1980, Congress established a New Reference Start Up Fund. It is currently being funded at $150,000 a year. In the opinion of IJC officials, this fund has improved the timeliness and quality of the Commission's reference studies.

The second recommendation was made in part to address the problem the IJC had in obtaining sufficient funds to enable representatives of the Great Lakes states to participate in board activities to the extent the state governments and the IJC wished. But this recommendation was also intended to enable the IJC to fund its own research projects directly. This recommendation has not been implemented because the involved U.S. agencies did not support it. The State Department believed it would undercut effective U.S. technical review and cost-effective management of funds because State was not in a position to independently administer or control all the technical aspects of IJC activities. These activities encompass a number of state and federal environmental and scientific programs and require the services of state and federal agency technical personnel. The State Department is still opposed to the recommendation for the same reasons.

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[1] How the United States Can and Should Improve Its Funding of International Joint Commission Activities (ID-78-10, Feb. 8, 1978).

One U.S. official pointed out that giving the IJC funds directly for all of its activities under one line item would reduce the prerogatives of the U.S. technical agencies as to which projects to fund. He believed that the U.S. agencies would lose control and direction if the IJC were to be given a freer hand in determining how to spend U.S.-supplied funds. For instance, the IJC might use funds for research that the U.S. agencies want to keep outside the purview of the IJC. He added that Canada funds its IJC commitments and projects in the same way as the United States.

5. What has been done to address the Commission's staffing problems that were mentioned in the 1978 GAO report?

In our 1978 report, we stated that the IJC was hampered because U.S. staff and financial support had not kept pace with the increasing demands placed on the Commission and the Washington Section Office. That same year, the IJC increased its staff from 9 to 11 in the Washington Section. In 1979, it added five more (four new positions plus one transfer from Windsor). In 1982, one position was cut. No new U.S. staff positions have been added in the past 7 years and the Washington staff has remained at 15. The Great Lakes Regional Office in Windsor has 9 American and 9 Canadian professional staff positions; the 18 administrative support staff positions are all Canadian.

Eight new staff positions were requested in the IJC's fiscal year 1990 initial budget submission (one in Washington, one in Ottawa, and six in Windsor, of which three would be American) to enable the IJC to carry out its responsibilities under the terms of the 1987 protocol. However, the proposed staff increase was dropped by the State Department because of overall budget constraints. According to some U.S. officials, the U.S. government had not performed the necessary analysis to determine whether the proposed staffing increase was justified.

6. What is the nature and extent of public access to the Commission and public participation in the selection of the commissioners?

IJC officials and a representative of a public interest group told us that public access to the commissioners as a whole body is limited in the formal sense to the biennial public meetings the full Commission holds when it releases its biennial reports, as required by the 1978 GLWQA. However, the commissioners individually accept invitations to speak to various interested groups around the Great Lakes, as do the Windsor office staff. Also, states, local jurisdictions, and the public were able to comment on the proposed U.S. amendments to the 1978 GLWQA through an unprecedented series of public meetings held around the lakes in 1986. Furthermore, a public adviser was added to the team that negotiated the 1987 protocol, and many of the changes he suggested were adopted. Finally, the Water Quality Board adopted a policy of obtaining public comments on any proposed change in a specific water quality objective.

The Acting Deputy Associate Administrator of the EPA stated that at the April 1988 biannual meeting of the two governments required by the protocol, the United States indicated it would not object to the IJC having public advisers, provided that these advisers serve only as consultants to the full Commission, not its technical boards, and do not participate in policy-making either at the full commission level or at the technical level. The IJC's commissioners were opposed to this idea.

In the view of some IJC and U.S. officials, the public's participation must not extend to policy-making because the Commission is essentially a diplomatic body and operates as such. Its boards' decisions are reached in private, and an IJC official asserted that their effectiveness would be curtailed if the public participated in the decision-making process. Some U.S. officials believed that if the public participated, the members of the technical boards, some of whom are employed by state and national agencies, would not speak frankly but would merely defend the actions of their own agencies.

Some IJC officials offered a different view. They believed that the technical board discussions were already lacking in candor because some members of the boards have inherent conflicts of interest in that they are charged with evaluating the progress of their own agencies' programs. One IJC official told us that public representatives would probably help the proceedings by providing a perspective that is now lacking. This official added that in light of the IJC's evaluative role under the terms of the 1987 protocol, obtaining that perspective may take on greater importance.

In the past, proposals have been made to add public representatives to the advisory boards or to establish a Citizen's Advisory Board. These proposals have been turned down. However, the remedial action plans now allow public participation in the types of issues that the IJC addresses. The national and state governments are required to consult with the public in each area of concern when formulating these comprehensive cleanup plans.

A representative of an environmental group believes that to carry out its mission effectively, the IJC should be an active citizens' forum: it should hold frequent and regular public meetings during which concerned citizens of the two countries could present their concerns and help address problems.

The public does not participate in the selection of the commissioners. The Canadian members of the Commission are appointed by the Governor in Council of Canada, and the U.S. members are appointed by the President with the advice and consent of the Senate. They serve at the discretion of the President for no fixed term.

Appendix II

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.

Joseph E. Kelley, Director, Security and International Relations Issues, (202) 275-4128
Joseph F. Murray, Assistant Director
Marie-Denise Sansaricq, Evaluator-in-Charge
B. Patrick Hickey, Evaluator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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THE ADMINISTRATOR

MEMORANDUM

TO: Assistant Administrators
General Counsel
Inspector General
Regional Administrators II, III, and V
Associate Administrators

SUBJECT: Cross-Media Management in the Great Lakes

As you well know, the health of the Great Lakes has been a priority for EPA for years. Significant progress has been made in addressing pollution problems. Yet much remains to be done if we are to improve and protect this vast, highly productive natural system.

Pollutants are entering the Great Lakes ecosystem from a number of pathways, including air deposition, point and nonpoint sources, and Superfund sites. To address the loading problems in the Great Lakes and the interdependent nature of the ecosystem, we must adjust our media-by-media orientation in favor of an integrated management approach. I believe the Great Lakes offer an ideal opportunity to fashion a workable, multi-media approach to pollution problems that could serve as a model for ecosystems elsewhere, as well as for the Agency generally.

To that end, I ask your help to undertake the following:

1. The membership of the Great Lakes Advisory Committee should be expanded to include all AA's. This will ensure an Agency-wide perspective is brought to bear on all Great Lakes policy issues.

2. The Deputy Administrator will chair the Committee for the first 6 months of its existence. After that, Hank and I will assess the progress of the Committee, and select an appropriate chairperson.

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3. Each AA should review his or her programs and funding policies within the next 30 days and provide your recommendations to the Great Lakes Advisory Committee (Attention: Carol Finch, Great Lakes National Program Office (5GL), 230 South Dearborn Avenue, Chicago, Illinois, 60604, (312) 352-2117) on the specific contributions your office could make toward a coordinated, multi-media approach to the Great Lakes' environmental problems.

4. Finally, a senior level contact should be designated by each office to provide day-to-day linkage to the Great Lakes National Program Office. Please let Carol know.

I will receive periodic reports from Hank on how this coordinated, multi-media approach is working in addressing the Great Lakes' environmental problems. Many of you know I put great priority on progress in improving the Great Lakes. The opportunity to pursue cross-media and pollution prevention strategies are considerable and I welcome your commitment and creative ideas.

William K. Reilly

William K. Reilly

cc: F. Henry Habicht II

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUN 11 1990

OFFICE OF CONGRESSIONAL
AND LEGISLATIVE AFFAIRS

Honorable Carl Levin
Chairman
Subcommittee on Oversight
of Government Management
Committee on Governmental Affairs
United States Senate
Washington, D.C. 20510-6250

Dear Mr. Chairman:

Enclosed are the responses to questions you submitted to F. Henry Habicht, II, Deputy Administrator, for the upcoming hearing on June 13th before your Subcommittee regarding actions being taken by Federal agencies to protect and improve the Great Lakes environment in accordance with the Great Lakes Water Quality Agreement between the United States and Canada.

I hope this information will be helpful to you and the members of the Subcommittee. I apologize to you and the other members of the Subcommittee for the delay in getting this information to you. If there is any further information we may furnish you, please do not hesitate to have your staff contact me.

Sincerely yours,
Christopher P. Hoff
Christopher P. Hoff
Acting Director
Legislative Analysis Division

Enclosure

Printed on Recycled Paper

Questions submitted by Senator Levin, Chairman, Subcommittee on Oversight and Government Management, Senate Committee on Governmental Oversight

Question 1 - GREAT LAKES ADVISORY COMMITTEE. Please describe the membership, activities and goals of the Great Lakes Advisory Group. Please provide copies of documents describing its functions as well as summaries or minutes from any meetings.

Answer: The Great Lakes Advisory Committee (GLAC) is EPA's internal coordination mechanism that provides advice to the Great Lakes National Program Office on policy issues effecting the Great Lakes Basin. In January 1990, the GLAC members determined that, in order to effectively satisfy GLWQA requirements, more direct participation was needed from all Agency offices. William K. Reilly, Administrator of the United States Environmental Protection Agency, responded to this need for cross media participation by expanding membership of the GLAC to include all EPA Assistant Administrators. EPA Deputy Administrator F. Henry Habicht II was designated to chair the committee for the first 6 months. After that, Mr. Reilly and Mr. Habicht plan to assess the progress of the committee, and select an appropriate chairperson.

Mr. Reilly has requested that each Assistant Administrator review his or her programs and funding policies, and provide recommendations to the Great Lakes Advisory Committee on the specific contributions their Offices could make toward a coordinated, multi-media approach to Great Lakes' environmental problems. Mr. Reilly also requested that a senior level contact be designated by each program to provide day-to-day linkage to the Great Lakes National Program Office. GLNPO is also in the process of identifying the responsibilities that various EPA Offices have under the Great Lakes Water Quality Agreement. This activity is planned for completion by June 1990. Discussions will follow with the various Offices during the summer of 1990.

This new coordinated multi-media approach within EPA will complement the efforts of the U.S. Policy Committee, which is the consortium of federal agencies, states, and EPA regions dedicated to implementing the U.S. responsibilities under the Great Lakes Water Quality Agreement. The combined efforts of the GLAC and the U.S. Policy Committee will more fully address the complex environmental problems in the Great Lakes, and respond to the agreement requirements for more direct management by the U.S. and Canada. The Great Lakes provide a challenging opportunity for a consortium of agencies to bring their collective efforts to bear on the complex cross-media issues, and to investigate innovative strategies for preventing pollution. We expect the solutions generated from this working model will help us address environmental problems in other ecosystems.

GREAT LAKES ADVISORY COMMITTEE

DRAFT AGENDA

JANUARY 5, 1990

I. INSTITUTIONALIZING CROSS-MEDIA

II. GREAT LAKES BASIN WORKPLAN

- SUMMARY OF ISSUES
- FUNDING PRIORITIES
- RESOURCES
  - FISCAL YEAR 1990 APPROPRIATIONS ADD-ON
  - GREAT LAKES COORDINATING COMMITTEE (GLCC) ISSUES

III. OTHERS

- GLNPO/ORD INITIATIVE
- REPORT TO CONGRESS STATUS REPORT

MEMORANDUM TO FILE

SUBJECT: GREAT LAKES ADVISORY COMMITTEE
JANUARY 5, 1990, MEETING SUMMARY

FROM: MARY SETNICAR, CHIEF
ENVIRONMENTAL PLANNING STAFF

MEETING BEGAN AT 11:45 A.M. AND ADJOURNED AT 1:30 P.M.

CHAIRED BY VALDAS V. ADAMKUS, GREAT LAKES NATIONAL PROGRAM MANAGER

ATTENDEES: GLNPO: FINCH, SAULYS, SETNICAR, BORY

OFFICE OF WATER: WILCHER, PROTHROW, T. DAVIES, BLAKESLEE, KRAMAN, L. BALDWIN (DETAILEE FROM OFFICE OF THE COMPTROLLER)

OFFICE OF ADMINISTRATOR: HOFF

OFFICE OF DEPUTY ADMINISTRATOR: LUDWISZEWSKI

OFFICE OF INTERNATIONAL AFFAIRS: ATKESON, CHRISTICH

OFFICE OF RESEARCH AND DEVELOPMENT: SLIMAK, S. WILLIAMS

OFFICE OF POLICY, PLANNING AND EVALUATION: WHEATON

REGION 2: SIDAMON-ERISTOFF, BRICKE, METZGER

REGION 3: ERICKSON

REGION 5: COVINGTON, SUTFIN, MASON

AGENDA: (SEE ATTACHMENT)

ADAMKUS BEGAN THE MEETING BY REVIEWING THE U.S. COMMITMENTS TO THE GREAT LAKES WATER QUALITY AGREEMENT (GLWQA).

GLNPO ALONE CANNOT DO THE JOB; NEEDS THE HELP OF OTHER PROGRAMS TO OPERATE EFFECTIVELY; GREAT LAKES PROGRAM MUST BE A PART OF THE BASE OF ALL PROGRAMS; OTHERWISE THE U.S. WILL NOT BE ABLE TO MEET ITS COMMITMENTS.

THIS IS THE LAST MEETING OF THE GLAC AS IT IS CURRENTLY MADE UP. LUDWISZEWSKI IS HERE AS DEPUTY ADMINISTRATOR'S REPRESENTATIVE TO SAY THAT THE ADMINISTRATOR WILL SHORTLY ISSUE A MEMO NAMING ALL AGENCY ASSISTANT ADMINISTRATORS TO GLAC, AND THAT, AT LEAST IN THE SHORT TERM, IT WILL BE CHAIRED BY HABICHT.

FINCH AND SAULYS WENT OVER THE FY90 GREAT LAKES BASIN WORKPLAN WHICH HAD BEEN SENT TO GLAC MEMBERS BEFORE THE MEETING. ALTHOUGH THIS FIRST ATTEMPT TO DISPLAY ALL ACTIVITIES CONTRIBUTING TO THE IMPLEMENTATION OF GLWQA AND SECTION 118 OF THE CLEAN WATER ACT IS NOT COMPLETE, IT DOES ILLUSTRATE THE DISCONNECT BETWEEN GLNPO'S STATED PRIORITIES OF LAKEWIDE MANAGEMENT PLANS (LAMPs) AND REMEDIAL ACTION PLANS (RAPs) AND THE AMOUNT OF RESOURCES THE PROGRAM CAN DEVOTE TO THEM.

THE CHALLENGE TO THE GLAC: ARE RAPs AND LAMPs APPROPRIATE PRIORITIES, AND IF SO, THE GREAT LAKES NPM NEEDS ADVICE ON HOW TO ADEQUATELY FUND THEM, CONSIDERING THE FACT THAT S. 118 COMPELS GLNPO TO DEDICATE THE MAJORITY OF ITS RESOURCES ELSEWHERE.

ADAMKUS REMINDED ATTENDEES THAT THE U.S. IS ALREADY BEHIND IN ITS COMMITMENTS TO RAP DEVELOPMENT. CANADA IS LOOKING TO US FOR EXAMPLES OF SUCCESS.

WILCHER RECOGNIZED THE COORDINATIVE NIGHTMARE GLNPO FACES; THE ONLY WAY TO BE PROACTIVE ABOUT IT IS TO DETERMINE A DIRECTION(S), FOCUS ON THE DIRECTIONS FIRST, AND WORK TO FUND THEM BEFORE CONSIDERING COMPETING INTERESTS. REILLY AND HABICHT ARE VERY INTERESTED IN GLNPO.

LUDWISZEWSKI REITERATED REILLY AND HABICHT'S COMMITMENT TO THE PROGRAM; SAID THAT HABICHT SAW THIS AS A GOOD OPPORTUNITY TO START THE AGENCY FOCUSSING ON CROSS-MEDIA MANAGEMENT AND COORDINATION IN PRACTICE, NOT JUST IN THEORY.

REGION 2 REITERATED ITS COMMITMENT AND ITS FRUSTRATION ABOUT INADEQUATE RESOURCES TO DO THE JOB.

REGION 3 IS ALSO COMMITTED (ON A LIMITED BASIS; CHESAPEAKE BAY TAKES PRECEDENCE); THEY WILL RESPOND TO WHAT IS ASKED OF THEM.

SLIMAK SAID THAT ORD HAS BEEN VERY INVOLVED IN THE PAST WITH TECHNICAL SUPPORT FOR LAMPs (AMONG OTHER ACTIVITIES); WILL CONTINUE TO FUND LAMPs WITH THEIR INITIATIVE.

T. DAVIES SUGGESTED TO THE ATTENDEES THAT THE FOCUS BE ON IMPLEMENTATION.

ADAMKUS REITERATED THAT AN ADEQUATE JOB CANNOT BE DONE ON RAPs AND LAMPs WITH PRESENT RESOURCES. HARD CHOICES HAVE TO MADE BY GLNPO AND THE REGIONS.

SUTFIN SAID THAT IN STATE NEGOTIATIONS, REGION 5 SAYS THAT PRIORITY IS GIVEN TO THE GREAT LAKES SUPPORT IN TERMS OF S. 319 FUNDS; EVEN THAT IS NOT ENOUGH; WE MUST PRIORITIZE AMOUNG THE 30 U.S. RAPs; MICHIGAN SUGGESTS THAT PRIORITY BE GIVEN TO THE INTERNATIONAL RAPs, ALONG WITH THE GRAND CALUMET; MEANWHILE, HE IS DEDICATING ADDITIONAL RESOURCES TO RAP SUPPORT IN HIS OWN STAFF, AND SUGGESTING THAT MULTI-REGIONAL, MULTI-STATE WATER QUALITY CRITERIA BE INCORPORATED INTO STATE WATER QUALITY STANDARDS (THE GREAT LAKES INITIATIVE)

SUTFIN RAISED THE ISSUE OF HOW TO ENCOURAGE CANADA TO REGULATE TOXIC CONTROLS.

ATKESON RESPONDED THAT, IN SPITE OF THE FACT THAT OW HAD THE LARGEST BUDGET AMOUNG THE MEETING ATTENDEES, HE WOULD HEREBY DEVOTE $50,000 TO THE EFFORT.

SIDAMON-ERISTOFF SAID THAT HIS FOCUS HAS BEEN THE FOUR-PARTY AGREEMENT AND THE LAKE ONTARIO TOXICS MANAGEMENT PLAN, BUT THAT HE WANTS TO FOCUS ON THE INTERNATIONAL RAPs IN HIS REGION

IN RESPONSE TO WILCHER'S REQUEST THAT A CHOICE BE MADE IN FAVOR OF IMPLEMENTATION OVER RESEARCH, LUDWISZEWSKI SAID THAT THAT IS EASIER SAID THAN DONE.

FINCH REMINDED ATTENDEES THAT RESEARCH BETTER FOCUSSES IMPLEMENTATION EFFORTS; EVEN SO, PER S. 118, A CERTAIN AMOUNT OF OUR RESOURCES IS DEDICATED TO RESEARCH.

LUDWISZEWSKI ADDED THAT, IF WE ARE TO SUGGEST TO CONGRESS THAT, FOR EXAMPLE, 40% OF GLNPO'S BUDGET NOT GO TO THE CONTAMINATED SEDIMENTS DEMONSTRATION PROJECTS, WE BETTER HAVE A GOOD IDEA OF WHAT WE WILL OFFER AS AN ALTERNATIVE.

PROTHROW SAID THAT GLNPO IS NOT THE ONLY OFFICE LOOKING AT CONTAMINATED SEDIMENTS. CAN'T WHAT HER PROGRAM IS DOING COUNT TOWARDS THE WORK THAT GLNPO IS REQUIRED TO DO?

ADAMKUS SAID THAT FOR NOW THERE COULD BE NO DEBATE ON THAT ISSUE, BUT A CHOICE COULD BE MADE ON WHAT PART OF GLWQA TO FOCUS ON FIRST, E.G., RAPs. SINCE GLWQA HAS NO SCHEDULE, WE SHOULD PROVIDE THE SCHEDULE, OTHERWISE IT WILL BE PROVIDED FOR US.

WILCHER SAID THAT, IN PREPARATION FOR CONGRESSIONAL TESTIMONY, FOCUS ON THE ASPECTS OF GLWQA WHERE SOMETHING IS ACTUALLY BEING ACCOMPLISHED/IMPLEMENTED; E.G., RAPs AND LAMPS. THE FACT THAT FUNDS ARE INADEQUATE FOR SUCH IMPORTANT ACTIVITIES SHOULD SEND A SIGNAL.

LUDWISZEWSKI SAID THAT EACH GLAC MEMBER SHOULD APPOINT A SENIOR LEVEL CONTACT TO ASSIST GLNPO WITH ITS CROSS-MEDIA EFFORT.

MEMORANDUM TO FILE

SUBJECT: PREPARATORY MEETING FOR NEW GLAC, MAY 25, 1990
(FOLLOW-UP TO ADMINISTRATOR'S APRIL 18, 1990 MEMO)

FROM: MARY SEINICAR, CHIEF
ENVIRONMENTAL PLANNING STAFF

THE MEETING BEGAN PROMPTLY AT 11 A.M. AND ADJOURNED AT NOON; IT WAS HELD IN THE OFFICE OF WATER CONFERENCE ROOM

CHAIRED BY BOB WAYLAND, DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF WATER

ATTENDEES: GLNPO: ADAMKUS (WEARING NPM HAT), FINCH, SEINICAR

OFFICE OF WATER: CONLON, BLAKESLEE, L. WISE, B. CRAIG, S. GERMANN

OFFICE OF ENFORCEMENT AND COMPLIANCE MONITORING: STIEHL

OFFICE OF AIR AND RADIATION: SHAPIRO

OFFICE OF RESEARCH AND DEVELOPMENT: SLIMAK

OFFICE OF INTERNATIONAL AFFAIRS: CHRISTICH

REGION 2: BRICKE (BY PHONE)

REGION 3: STIGAL (CHESAPEAKE BAY PROGRAM)

REGION 5: COVINGTON (PRECEDING TRANSFER TO NEIC),
BAUER (PRECEDING TRANSFER TO REGION 5)

AGENDA: HOW TO MAKE GLNPO A WORKING CROSS-MEDIA OFFICE
- WHAT ARE OTHER PROGRAMS DOING NOW THAT HELPS GLNPO?
- WHAT CAN THEY DO IN ADDITION?

ADAMKUS BEGAN THE MEETING BY REITERATING REILLY'S STRONG COMMITMENT TO THE GREAT LAKES NATIONAL PROGRAM; IT'S NOT LIP SERVICE; HE REALLY MEANS THAT ALL PROGRAMS MUST CONTRIBUTE TO THE GREAT LAKES, AND THAT GLNPO MUST BE CROSS-MEDIA IN PRACTICE. OUR CHARGE AT THIS MEETING IS TO BRAINSTORM ABOUT WHAT IS REQUIRED TO MAKE THAT GOAL A REALITY.

WAYLAND SUGGESTED THAT ACTIVITIES ARE ALREADY GOING ON, OR ARE BEING PLANNED, IN OTHER PROGRAMS THAT WILL ASSIST THIS EFFORT. THE CHALLENGE IS TO IDENTIFY THOSE ACTIVITIES. ULTIMATELY, THIS EFFORT MUST BE SEEN AS AN ACTION INITIATIVE THAT RESTORES AND PROTECTS THE GREAT LAKES.

ADAMKUS AGREED THAT ACCOUNTABILITY IS VITAL; REILLY EXPECTS TO SEE RESULTS

BAUER SUGGESTED THAT MEASURES OF SUCCESS BE INCLUDED IN THE INITIATIVE; SERVES TO FOCUS THE EFFORT.

IN RESPONSE TO QUESTIONS ABOUT GROUNDRULES, WAYLAND SAID THAT WRITTEN GUIDANCE WOULD FOLLOW NEXT WEEK FROM HIS OFFICE, BUT THAT PROGRAMS SHOULD REGARD THE ORGANIZING PRINCIPLE AS BEING A GEOGRAPHIC APPROACH TO PROBLEM-SOLVING, NOT A LITANY OF WHAT INDIVIDUAL PROGRAMS ARE DOING.

ADAMKUS REMINDED THE ATTENDEES THAT THE AREAS OF CONCERN IDENTIFIED BY THE GREAT LAKES WATER QUALITY AGREEMENT (GLWQA) ARE THE POINTS OF REFERENCE.

BAUER SUGGESTED THAT ALL THE POLLUTANTS OF CONCERN BE IDENTIFIED IN THESE AREAS, THEN THAT LIST NARROWED DOWN TO THOSE THAT ACTUALLY DO HARM, THEN IDENTIFY WHAT TOOLS WE ALREADY HAVE OR NEED TO ADDRESS THOSE PROBLEMS.

FINCH REMINDED THE ATTENDEES THAT PART OF THE REMEDIAL ACTION PLAN (RAP) DEVELOPMENT PROCESS WAS PROBLEM DEFINITION.

(THE MEETING WAS ADJOURNED TO ALLOW OFFICE OF WATER STAFF TIME TO DEVELOPMENT WRITTEN GUIDANCE TO SEND OUT TO THE OTHER PROGRAMS.)

Question 2 - SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC). During a Subcommittee hearing in September 1989 on spills of oil and hazardous material in the Great Lakes, EPA promised to strengthen its Spill Prevention, Control and Countermeasures (SPCC) Program to inspect oil and chemical storage facilities. What is the status of the new SPCC regulations promised at the hearing? How many SPCC inspections are planned for 1990 and how many have actually been performed? Within the national effort, how many inspections are planned for Region V and how many actually been performed?

Answer: Following the Slorasse, Pennsylvania spill in 1988, a task force was created to review the Spill Prevention, Control and Countermeasures (SPCC) regulations. Its work resulted in two phases of change. The first phase entails strengthening regulatory requirements that mandate preparation of SPCC plans in accordance with good engineering practices, and that require facilities to notify EPA of their potential eligibility under the program. The draft regulations have just finished EPA review, with final promulgation anticipated in September 1991.

The second phase, which commences this summer, will focus on technical aspects of the regulation such as specific tank integrity testing requirements and contingency planning, developing enforcement and inspection policies and guidance. EPA is also working with the National Conference of State Legislators to encourage states to adopt parallel legislation and guidance.

SPCC inspections planned for FY 1990:

For FY 1990, approximately 90 inspections are planned in the Great Lakes Basin. Approximately 70 of these have been completed.

In EPA Region V, 124 inspections are planned. 98 were completed as of May 1, 1990.

Question 3 - RAPs. At a hearing in April 1989, EPA's Great Lakes National Program Office promised to increase efforts to compel states to complete Remedial Action Plans (RAPs) to cleanup toxic hotspots in the Great Lakes. What steps have been taken? Please provide a list of the dates by which states have submitted or promised to submit draft RAPs to the IJC for review. What additional steps does EPA plan to take to ensure that states meet their self-imposed deadlines?

Answer: Annex 2 of the Great Lakes Water Quality Agreement (GLWQA) directs the Parties to cooperate with State and Provincial Governments to ensure that RAPs are developed and implemented for Areas of Concern (AOCs). Thirty AOCs exist within the United States, including five international AOCs, with the following distribution:

Minnesota (1)
Wisconsin (3)
Illinois (1)
Indiana (1)
Michigan (14)
Ohio (4)
New York (6)

The States have agreed to take the lead role in the development of the RAPs. In a number of instances the States have been very successful in garnering local community support and moving forward with RAP development (e.g., Green Bay, Rouge River, Buffalo River and Cuyahoga River). In other instances, progress on RAP development has been slow for a number of reasons, including lack of local community support, and the technical complexity of the environmental problems. As a result, it became apparent that greater participation by the USEPA in the RAP process is needed in order to provide direct scientific technical assistance and, where possible, financial resources to spur RAP development and implementation. In particular, the States requested that USEPA play a greater role in the development of RAPs for international AOCs (i.e., Niagara River, St. Mary's River, Detroit River, St. Clair River, and St. Lawrence River).

In response to the request for greater Agency participation, Regions II and V will be providing support to the States for FY 1991 for the development and implementation of RAPs. The Regions provided early grants to the States as start-up funds, and are negotiating specific schedules for RAP submittals with the States part of the FY 1991 Section 106 planning process. It should be noted, however, that Section 106 grants are the principal sources of Federal funding for State water pollution control programs, which means that funding for RAP development and implementation is competing against funding for other high priority State programs and activities.

The U.S. EPA will continue to work cooperatively with the States to ensure timely RAP development and implementation. The USEPA is committed to target the resources available, to the maximum extent possible, to ensure that the planning process is conducted in an efficient and timely manner, with emphasis on identifying and completing those elements of the RAPs that fall under the purview of the Agency's and States' current regulatory authority.

STATUS/SCHEDULE FOR SUBMISSION OF GREAT LAKES AREA OF CONCERN REMEDIAL ACTION PLANS

5/7/90

STATE	RAP SUBMISSION ACTUAL STAGE 1		RAP SUBMISSION ANTICIPATED STAGE 1		IJC REVIEW STATUS
	STAGE 1	Stage 2	STAGE 1	STAGE 2	
ILLINOIS					
Waukegan Harbor	——	——	1/91	9/90#	Not yet submitted
INDIANA					
Indiana Hbr/Grand Cal	(predraft)	——	11/90	?	Not yet submitted
MICHIGAN					
Muskegon L.	10/87	——	——	?	Inadequate for Stg. 1 (WQB); referred for IJC review
Manistique R.	10/87	——	——	?	Inadequate for Stg. 1 (IJC)
White L.	10/87	——	——	?	Inadequate for Stg. 1 (WQB); referred for IJC review
Deer L./Carp R.	10/87	10/87	——	——	Stg. 1 for Hg only (WQB); referred for IJC review
Detroit R.	——	——	1991	?	Not yet submitted
Clinton R.	11/88	11/88	——	——	Inadequate for Stg. 1 (WQB); referred for IJC review
Kalamazoo R.	——	——	(*)	(*)	Not yet submitted
River Raisin	10/87	——	——	?	Inadequate for Stg.1 (IJC)
Rouge R.	8/88	8/88	——	——	Stg. 1 & 2 met for CSOs, sewer separation & bact. only (WQB); referred for IJC review
Torch L.	10/87	——	——	?	Stg. 1 incomplete for toxics (IJC)
Saginaw R./Bay	11/88	11/88	——	——	Inadequate for Stg. 1 (WQB); referred for IJC review
St. Marys R.	——	——	1991	?	Not yet submitted
St. Clair R.	——	——	1991	?	Not yet submitted
MINNESOTA/WISCONSIN					
St. Louis Bay	——	——	6/90	6/91	Not yet submitted
NEW YORK					
Niagara R.	——	——	9/91	?	Not yet submitted
Buffalo R.	11/89	11/89	——	——	Now in WQB review
Eighteen Mi. Cr.	——	——	6/93	?	Not yet submitted
Rochester Embayment	——	——	9/91	?	Not yet submitted
Oswego R.	4/90	——	——	?	Now in WQB review
St. Lawrence R.	——	——	7/90	?	Not yet submitted
OHIO					
Ashtabula R.	(draft)	——	9/90	?	Not yet submitted
Black R.	——	——	1991	?	Not yet submitted
Maumee R.	——	——	6/90	3/91	Not yet submitted
Cuyahoga R.	——	——	12/90	1992	Not yet submitted
WISCONSIN					
Fox R./S. Green Bay	10/87	10/87	——	——	Completed (IJC)
Sheboygan Harbor	10/89	10/89	——	——	Now in IJC review
Milwaukee Estuary	——	——	7/90	11/91	Not yet submitted
WISCONSIN/MICHIGAN					
Marinette/Menominee	(draft)	——	6/90	10/90	Not yet submitted

(*) - RAP development postponed by CERCLA litigation (in the case of Waukegan Harbor, the settlement of April, 1989 clears the way for IL to prepare the RAP).

- Partial Stage 2 RAP to be submitted initially, based upon CERCLA decision now in place.

Question 4 - GREAT LAKES INITIATIVE. At the April 1989 hearing, EPA announced its intention to establish a Great Lakes Initiative to develop more uniform water quality standards throughout the region. What is the Status of this Initiative?

Answer: The U.S. EPA, in cooperation with the Great Lakes States, has undertaken the Great Lakes Water Quality Initiative (GLI) in order to encourage the development of consistent State Water Quality Standards for the Great Lakes Basin. Under the GLI, guidance specifically designed for the Great Lakes will be developed for use by the States and U.S. EPA in their Great Lakes pollution control programs.

Since April 1989, the Concept Paper describing the Great Lakes Initiative has been finalized, and three committees have been appointed: a Steering Committee, a Technical Workgroup and a Public Participation group. These committees have developed a scope of work that defines the work products and the development process. The products include: guidance for aquatic life, human health and wildlife water quality criteria including procedures that describe how a criterion for a particular pollutant would be applied to a given source of that pollutant; an antidegradation policy and application procedures for the policy; and a pollution prevention policy.

To date, initial draft proposals for the aquatic and wildlife methodologies have been prepared by the staff workgroups and undergone several redrafts. Scoping sessions for the remaining work elements are scheduled for June. A strategy will be developed for drafting and preparing products for Steering Committee review according to a committee schedule that calls for: preparation of products for initial Steering Committee ratification between now and May 1991; a prescribed period of time for soliciting broad public comment on the proposals; redrafting as needed based on comment; and final products to the Steering Committee at intervals during calendar year 1991 (the last products are due in November 1991).

Question 5 - MICHIGAN EXECUTIVE ORDER. On May 4, 1990, Michigan issued an Executive Order requiring all state environmental activities to comply with the GLWQA and to work toward the elimination of discharges of persistent toxins into Great Lakes waters. What is EPA's reaction to this undertaking?

Answer: U.S. EPA supports Michigan's efforts to ensure consistency among State administrative rules or guidelines, and the general and specific objectives of the GLWQA, the Annexes of the GLWQA, and the provisions of the Great Lakes Toxic Substances Control Agreement (or Governors' Agreement). In particular, the Agency recognizes the need for greater consistency among States in terms of their water quality standards and their procedures for implementing these standards. The Agency applauds the State of Michigan's assurance of region-wide public review of state water quality standards and pollution control programs for consistency with the agreement. Having State pollution control programs, to the greatest extent practicable, strive to eliminate the discharge of persistent toxic pollutants, in toxic amounts, to the Great Lakes from Michigan sources and encouraging the reduction, reuse or recycling of persistent toxic substances as an alternative to the discharge or release of these substances into the Great Lakes will go far for protection of the basin ecosystem.

Question 6 - IJC RECOMMENDATION OF LAKE SUPERIOR AS A DEMONSTRATION ZONE. In its Fifth Biennial Report on the Great Lakes, the International Joint Commission (IJC) recommended designating Lake Superior as a demonstration zone to implement the GLWQA's objective of zero discharge of persistent toxins into Great Lakes waters. What is EPA's reaction to this undertaking?

Answer: The objective of zero discharge is consistent with the national goal of Section 101(a)(1) of the Clean Water Act and the policy of virtual elimination as stated in Article II(a) of the GLWQA. The IJC recommendation that the Parties designate Lake Superior as a demonstration area where no point source discharge of any persistent toxic substance will be permitted has merit. However, several factors must be further explored before decisions can be made:

o Whether existing regulatory authority is sufficient to support such control of point sources.

o Whether it is meaningful to require zero discharge in Lake Superior when up to 90% of pollutants such as PCBs, appear to reach the Lake through air deposition and air transport of toxics from outside the watershed.

It may be that the best steps toward zero discharge of all sources to Lake Superior will be through strong antidegredation policies and pollution prevention initiatives. Under both the Act and the Agreement, the primary mechanism of achieving virtual elimination is through technology-based requirements and pollution prevention techniques. A major component of the Great Lakes Water Quality Initiative is the development of a pollution prevention strategy or the Great Lakes in order to address the virtual elimination policy of the Agreement. Because the Initiative is a U.S. effort, we are also undertaking the development of a binational pollution prevention strategy with Environment Canada in order to impact the entire Basin.

Question 7 - LAKE MICHIGAN LMP. What progress has been made on the development of a Lakewide Management Plan for Lake Michigan? Is there a deadline for completion of a draft plan?

Answer: The 1987 revisions to the Great Lakes Water Quality Agreement require the United States and Canada, in consultation with the State and Provincial governments, to develop and implement Lakewide Management Plans (LMPs) for each of the Great Lakes. These plans must be designed to reduce the loadings of persistent, bioaccumulative pollutants (i.e., critical pollutants), with a goal of virtual elimination of toxics. Progress in developing the LMP for Lake Michigan has been slow because of the technical complexity of controlling toxic substances on a lakewide basis, resources, constraints and the need to build alliances with a large number of Federal, State, and local entities.

EPA Region V initiated the LMP process for Lake Michigan in FY 1990. The Region plans to establish a joint Federal-State Policy Committee to guide LMP development with a goal of LMP development in FY 1991 with full public participation in the process. An initial draft of the LMP, identifying critical pollutants and the initial steps needed to identify and control sources of these pollutants with appropriate time schedules, should be available by the first quarter of FY 1992.

Although the U.S. EPA Regions have the lead responsibility in developing LMPs, the Agency does not have sufficient resources, expertise, or authority to accomplish the task alone. The Agency's role is one of catalyst and facilitator of broader Federal, State, and local community participation in the development and implementation of these plans. In addition, while the LMP process represents a challenging opportunity to maximize the efficient use of multiple sources of financial and technical resources we must recognize that the geographic scale and the technical complexity of the Lake Michigan LMP is unprecedented in our experience.

To date the following steps have been taken to lay the foundation for Lake Michigan LMP development in FY 1991:

1. A senior Regional manager has been designated as the Lake Michigan LMP Coordinator to oversee and plan Regional activities and to facilitate coordination between Federal and State agencies;

2. A support team is being assembled to provide technical support to the Coordinator, and to provide support to the joint Federal/State Policy and Management Committees that will be responsible for LMP development and implementation.

3. A comprehensive data management process to support LMP development and implementation has been designed, although requests for funds to support this effort have not yet been met.

4. Development of the Lake Michigan LMP is identified as a high priority activity in the Region's FY 1991 generic program guidance to the States of Michigan, Indiana, Illinois, and Wisconsin. This issue has been discussed with each State water program director during the annual program negotiation visits and follow-up meetings are being scheduled with each State. Each State has been asked to provide both managerial and technical staff to serve on the committees responsible for developing the LMP and to initiate pollution control activities, where possible, consistent with the LMP. However, States have expressed concern about investing in LMP acitivities at a time when they are under heavy pressure to complete their RAP.

5. In FY 1990, the Region identified implementation projects within the Great Lakes Basin as one of its highest priorities for the award of Section 319 funds to support Nonpoint Source (NPS) pollution prevention and control programs. Region V funded projects within the Basin amounting to approximately 47% ($2.8 million) of the Regions Section 319 allocation. NPS pollution prevention and control activities targeted within the Lake Michigan Basin, including federal dollars and State matching funds, total $2.4 million, and account for approximately 40% of the NPS pollution control expenditures by USEPA and the States in the Great Lakes Basin.

While the Agency now expects to complete a draft plan by July 1991, resources needed to initiate the LMP process can only be reallocated from traditionally underfunded base water programs in the Region. This combined with the difficulty in finding technically capable staff over the long-term makes the prognosis for LMPs much less optimistic than it is for RAPs.

Question 8 - ASSESSMENT AND REMEDIATION OF CONTAMINATED SEDIMENTS. At the April 1989 hearing, EPA described its efforts to demonstrate promising technologies to cleanup contaminated sediments under the ARCS program. Is the field work to map and test the sediments at the five sites now complete? Have the technologies to be tested at each site been selected?

Answer: Considerable progress has been made since the April 1989 hearing to demonstrate remedial options for contaminated sediments. A Work Plan for the Assessment and Remediation of Contaminated Sediments (ARCS) Program has been developed, addressing specific activities to be performed at each of the five priority locations identified in Section 118(c)(3) of the Clean Water Act. Large volume samples (100 gallons) of sediment have been collected from each of the five sites for treatability testing. A contractor is now working on this, as are the Corps of Engineers and the Bureau of Mines. Between ten and fifteen processes will be applied to selected samples from all five sites on a bench scale. The selection of types of treatment to be tested was based upon a matching of the type of treatment process with the type of contamination present.

Next year, pilot scale demonstrations will be conducted at selected sites. It is anticipated that at least two such demonstrations will be conducted. We are closely coordinating with the Superfund program and analogous Canadian programs to maximize the number of demonstrations possible, and the information produced.

In December 1989, surficial sediment from the Saginaw River was sampled for detailed chemistry and toxicity testing. During the period from May 14-25, 1990, physical profiling and sediment coring was conducted. Limited chemical analysis is being conducted on these samples to determine how much potentially contaminated sediment is present at various depths. From June 21-27, a second surficial sampling will take place for detailed chemistry and toxicity testing. This will provide supplemental information, not previously collected. All of this information will be used for sediment mapping, which will be very useful in evaluating remedial options.

In August 1989, surficial sediment was sampled from Indiana Harbor for detailed chemistry and toxicity testing. Earlier in that year, samples were collected from the Grand Calumet River for similar testing. Sediment profiling and coring will be conducted from August 13-24, 1990, in Indiana Harbor. This information will be grouped together for sediment mapping.

In October 1989, surficial sediment was sampled from the Buffalo River for detailed chemistry and toxicity testing. Sediment profiling and coring will be conducted from July 9-21, 1990. This information will be used for sediment mapping.

All sampling for sediment assessments will be completed by September 1990. A considerable amount of chemical and biological analysis has been completed, and will be available after quality assurance checks have been completed. All data from the above sampling is expected to be available in raw form by the end of 1990 (Dec). Data interpretation and mapping will continue into 1991.

Chemical and biological sampling of the Sheboygan Harbor and Ashtabula River will not be performed by the ARCS program, as there is considerable Superfund activity at both of these locations focusing on contaminated sediment. For example, a group of companies in the Ashtabula River area has nearly completed a sediment monitoring effort of the river, costing in excess of one million dollars. The ARCS program will supplement needed information where necessary, but not duplicate such activities.

Question 9 - GREAT LAKES AIR TOXICS MONITORING STATIONS. At an April 1989 hearing before the Subcommittee, EPA promised to finalize with Canada the locations for five "master" air toxics monitoring stations, with one station in each of the Great Lakes as part of the Great Lakes Air Deposition (GLAD) Network. Please provide the locations for these five stations, if they have been finalized. If they have not, please describe what steps have been taken with Canada to choose the sites and when the locations will be finalized. Also please indicate when all five stations are expected to become operational.

Answer: The U.S. EPA and Environment Canada have agreed to an Implementation Plan for the Integrated Atmospheric Deposition Network (IADN). This documentation will be ready for signature at the June 14th meeting of the Parties.

The IADN Plan will consist of three phases, commencing with the implementation date of January 1990 and lasting for two years each. During phase 1 of the Plan, the Parties will initiate sampling at one master site each. The U.S. site will be located on the south shore of Lake Superior, and the Canadian site will be at Point Petre on Lake Ontario. By April 1991, Canada will initiate construction of the third master site on Lake Huron. Two U.S. master sites will be sited: one on the southeastern shore of Lake Erie and one on Lake Michigan. The Lake Erie site will be implemented at the beginning of Phase 2 and the Lake Michigan site during Phase 2. Phase 2 will begin in January 1992, and will run through December 1993. During 1992, five satellite stations in Canada and six satellite sites in the U.S. will be chosen and implemented. The intent is that one satellite station will be added to each side of each of the four international lakes, two U.S. stations to Lake Michigan and one Canadian station northwest of the Great Lakes Basin.

Analysis of data from the five master sites and eleven satellite sites for Phases 1 and 2 will be completed by June 1994. At that time, the Parties will determine the need for, and the necessary sites for, up to an additional eleven satellite stations. The intent is have one station added on each side of each international lake, two U.S. stations on Lake Michigan and an additional station northeast of the Great Lakes Basin in Canada.

Question 10 - ROUGE RIVER STORMWATER PERMIT PROGRAM. Three years ago, in 1987, EPA committed itself to developing a model stormwater permit program for the Rouge River due to the river's documented pollution problems from stormwater discharges and the need for a national model. After two years of little progress, in September 1989, Administrator Reilly stated that the "Rouge River project is of particular interest" and that EPA "has taken steps to expedite work on the project, and will continue to take steps to avoid unnecessary delays." No stormwater permit program is in place or nearing completion for the Rouge River. Please explain the status of this effort.

Answer: EPA Region V has directed the development of model storm water application forms and National Pollutant Discharge Elimination System permit conditions for Rouge River discharges. Two draft reports, entitled "Draft Prototype Application For NPDES Stormwater Permits Rouge River Basin, Michigan" and "Draft Language For Interim and Final Rouge River NPDES Storm Water Permits", were prepared on September 30, 1989. These work products were forwarded to the Michigan Department of Natural Resources (MDNR) for its review.

Detailed stormwater requirements were subsequently incorporated into the reissued NPDES permit for the City of Detroit. However, the stormwater controls in the permit are currently under consideration in the Federal District Court as part of a request by the City of Detroit to join appeal of these provisions with an ongoing pretreatment case. In the meantime, EPA and State-issued Administrative Orders are still in effect, including a very general set of controls on stormwater dischargers.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 30 1990

OFFICE OF
THE ADMINISTRATOR

Honorable Carl Levin
Chairman
Subcommittee on Oversight
of Government Management
Committee on Governmental Affairs
United States Senate
Washington, D.C. 20510-6250

Dear Mr. Chairman:

Enclosed are the responses to questions you submitted to me following the hearing on June 13th before your Subcommittee regarding actions being taken by Federal agencies to protect and improve the Great Lakes environment in accordance with the Great Lakes Water Quality Agreement between the United States and Canada. The response to questions 8 and 9 have not been included at this time. These responses are still undergoing review and we will forward them to you as soon as they become available.

As I mentioned in my testimony before your Subcommittee, the health of the Great Lakes will continue to be one of the top priorities of the Agency in the years to come. Bill Reilly and I believe the Great Lakes offer an ideal opportunity to fashion a workable, multi-media approach to pollution problems that could serve as a model for ecosystems elsewhere, as well as for the Agency generally. We are particularly hopeful that the expanded Great Lakes Advisory Committee will be a most valuable and essential mechanism to help us accomplish our goals for the Great Lakes. I look forward to future opportunities to continue our dialogue on the Great Lakes, and to work with you and members of the Subcommittee on this most important environmental ecosystem.

I hope this information will be helpful to you and the members of the Subcommittee and apologize that the response was not assembled more promptly. Please bear in mind that these responses are based upon current plans and resources, and that our Agency-wide review process may very well result in even more ambitious goals set for this most important program. We have some important Great Lakes enforcement initiatives for example. For your interest, I am including a summary of our July 27th precedent-setting consent decree with USX Corporation, which will have a very significant impact on loadings and pollution prevention in Lake Michigan. We will continue to keep you closely advised, and if there is any further information we may furnish you, please do not hesitate to contact me. Thank you again for your interest and support for the Great Lakes.

Best regards.

Sincerely yours,

F. Henry Habicht II
Deputy Administrator

Enclosure

USX CORPORATION - GARY WORKS SETTLEMENT
SUMMARY

NATURE OF CASE

USS, a division of USX Corporation (formerly United States Steel), owns and operates a fully integrated steelmaking facility in Gary, Indiana. The USS-Gary facility discharges wastewater containing pollutants directly into the Grand Calumet River and Lake Michigan. This facility previously discharged industrial wastewater to the City of Gary POTW. The facility was issued a National Pollutant Discharge Elimination System ("NPDES") permit in 1983, which permit will be reissued shortly.

On October 19, 1988, the United States filed a civil Complaint in the United States District Court for the Northern District of Indiana. The complaint alleged that USX violated pretreatment standards and reporting requirements, its NPDES effluent limitations, and the bypass and monitoring provisions in its permit. Also, USX had a number of unauthorized discharges at its plant and a number of oil spills.

EPA proposed to list USX on the EPA List of Violating Facilities in August 1989. The proposed listing action was withdrawn as a condition of the settlement in principle we reached with USX in March 1990.

SETTLEMENT

Pursuant to the proposed consent decree, USX has agreed to fixed-date compliance schedules applicable to each portion of its facility to address the various compliance problems found within each. The compliance actions/milestones described in 1 through 5 below are enforced by stipulated penalties set forth in the decree. The pretreatment claim of the United States was resolved shortly after the Complaint was filed and is not addressed by the Decree.

1. Remedial Wastewater Programs

To address illegal discharges of process and non-contact cooling waters from the Coke Plant area, USX will develop a detailed management plan to ensure that process wastewaters are discharged in compliance with its permit and that unauthorized discharges are eliminated. The decree requires that specific actions be taken at the Coke Plant to effectuate this end, including replacing leaking heat exchangers, and constructing and/or repairing drainage collection systems. The consent decree similarly addresses illegal Blast Furnace, Finishing Mill, and Steelmaking Area discharges.

2. Installation and Operation of Monitoring Stations

This Consent Decree directs USX to relocate, by specified dates, monitoring stations at numerous outfalls to ensure that samples taken at such outfalls are representative. The decree also requires that automatic flow monitoring devices and bypass monitoring equipment be installed by specified dates.

3. Effluent Limitations

To ensure that the compliance actions outlined above, result in compliance with NPDES permit limitations, the consent decree requires compliance with various interim and final effluent limitations by dates certain. Furthermore, in anticipation of a new permit being issued in the near future to USX, the decree requires USX to comply with effluent limits which are more stringent than the limits in its current NPDES permit. For example, for its Coke Plant discharge USX must comply with a new State water quality-based wasteload allocation (WLA) limit rather than the less stringent WLA limit found in its current permit.

4. Monitoring

The proposed settlement includes monitoring above and beyond what USX's permit requires in order to track USX's compliance with the pretreatment regulations and visible oil discharge standards, as well as to develop historical water quality data for the Grand Calumet River.

5. Other Requirements and Remedial Actions

The decree obliges USX to submit an updated Spill Prevention Control and Countermeasure ("SPCC") Plan to minimize and eliminate oil spills at the USX-Gary facility. Additionally, the Decree requires USX to properly dewater its blast furnace sludge prior to disposal. The decree also directs USX to conduct an annual audit of its plant's operation to determine its compliance with Clean Water Act and SPCC program requirements. The decree also sets forth detailed reporting requirements to ensure that U.S. EPA is kept abreast of USX's efforts to comply with the terms of the decree.

6. Sediment Characterization and Remediation and Covenant Not To Sue

Region V believes that USX's discharges caused serious contamination of the sediments in the Grand Calumet River. To address this harm, USX has agreed in this consent decree to spend up to $7.5 million on a sediment characterization and remediation program in the Grand Calumet River. As part of this program, USX must conduct a detailed sediment characterization program downstream of their plant up to a specified point in the River where other sources begin to contribute to contamination of the sediments (USX is located at the headwaters of the River). Additionally, USX must spend at least $5 million out of the $7.5 million to formulate and implement a remediation plan directed at remediating sediments in front of its property.

The consent decree, in recognition that this work is similar to that which would be done under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), contains a covenant not to sue USX. This covenant is narrowly defined, and only applies to suits by the United States on behalf of U.S. EPA to compel USX to take additional remedial action in the specific River segments beyond that already required under the decree. For that section of the river that USX is to perform the sediment remediation project, the covenant expires no later than five and one half years from the date of entry of the consent decree. For that section of the river that USX is to perform the characterization study, the covenant expires no later than two and one half years from the date of entry.

The covenant is valid only if USX is conducting the remediation program in full compliance with the terms of the Decree. Additionally, this covenant does not limit U.S. EPA's authority to bring an action if it is determined 1) that the sediments may constitute an imminent and substantial threat to public health or welfare or 2) the project, as conducted by USX, causes a release which may constitute an imminent and substantial threat to public health or welfare or to the environment. Finally, this covenant does not limit at any time U.S. EPA's ability to instigate a cost recovery action, seek information, or gain access to the site under applicable statutory authorities.

7. Penalty

USX has agreed to pay a civil penalty of $1.6 million within 30 days of the entry of the decree.

Questions submitted by Senator Levin and received following the June 13, 1990, hearing before the Subcommittee on Oversight of Government Management of the Senate Committee on Governmental Affairs regarding U.S. progress under the Great Lakes Water Quality Agreement.

1. Question: During the hearing, you promised to determine the reasons for the nine-month delay in EPA's sending to OMB new regulations strengthening the Spill Prevention, Countermeasures and Control (SPCC) Program and to expedite issuance of these regulations. Please provide the reasons for the delay and the new date by which EPA will send these regulations to OMB.

Answer: EPA's Office of Solid Waste and Emergency Response submitted proposed phase one modifications to the Oil Pollution Prevention regulation (40 CFR Part 112), also known as the spill prevention, control and countermeasures or SPCC regulation, for the internal Agency review process (Red Border review) on November 3, 1989. In this review process other offices of EPA, including Regional offices and other program offices, review regulatory proposals and raise issues, if appropriate, relating to their programs. As Mr. Timothy Fields, Jr., then Director of the Emergency Response Division, testified before the Subcommittee on September 6, 1989, EPA expected this internal review process to be completed on December 3, 1989. However, because of issues that a number of EPA offices raised during the internal review, this review was extended until February 6, 1990.

We have now considered and resolved these issues, and we are preparing a **revised** proposed regulation package. Following review of the revised regulation, preamble and other supporting documents by offices of EPA that commented during the Red Border review process, we will submit the proposed regulation to the Office of Management and Budget (OMB) for its review by September 1, 1990. Following OMB review, the proposed regulation will be published in the Federal Register for notice and comment. Although our projected date for proposing these modifications to the SPCC regulation is later than we originally reported to you in September, we believe that the proposed regulation will be stronger because of the changes that we have incorporated as a result of this internal review process.

2. Question: During the hearing, you indicated that a decision would soon be made on the number of SPCC inspections that would be performed on oil storage facilities in the Great Lakes Basin in FY91. Please provide that figure or, if it is not yet determined, the date by which it will be available.

Answer: The following describes the number of SPCC inspections expected to be performed on oil storage facilities in the Great Lakes Basin in FY 1991. The information is arranged by the three EPA Regions in the Great Lakes Basin.

> Region II -- 270 SPCC inspections are planned for all of Region II during FY 1991. Of these, 20 SPCC inspections tentatively planned for the Great Lakes Basin.
>
> Region III -- 60 to 66 SPCC inspections are planned during FY 1991 in Region III. 1 or 2 of these are tentatively planned for the Great Lakes Basin.
>
> Region V -- 317 SPCC inspections are planned during FY 1991 in Region V. It has not been determined how many SPCC inspections will be conducted in the Great Lakes Basin, however, it is anticipated that approximately 50% of the SPCC inspections will occur in the Great Lakes Basin.

3. Question: During the hearing, you promised to determine why the Kalamazoo River site that was nominated by EPA on April 27, 1989, for inclusion in the Superfund Program is not yet final. Please provide this information and the date by which that nomination will become final.

Answer: Following nomination of the Allied Paper/Kalamazoo River site for inclusion on the National Priorities List (May 5, 1989), the nomination was submitted to a 60-day public comment period. Comments received were generally of a technical nature and concerned the validity of the package.

The comment period closed July 5, 1989. The final rule which consisted of technical support documents, a preamble and an Action Memorandum was submitted to OMB for review. As a result of the OMB review, EPA is completing preparation of the final support documents. The Agency anticipates publication of the rule in the Federal Register within the next month.

Although the site is not final on the NPL, EPA has been moving forward with the State of Michigan to address the contamination in this area. The Remedial Investigation/Feasibility Study (RI/FS) process has already begun. On June 13, 1990, the Michigan Department of Natural Resources (MDNR) sent notice letters to three potentially responsible parties (PRPs) (Georgia-Pacific, Allied Paper, and Simpson-Plainwell Paper Co.), offering these companies the opportunity to conduct the RI/FS for this site, in accordance with the provisions of Superfund. Region V is confident that, by the end of September, either the PRPs will have agreed to do the RI/FS under a consent agreement or that the Region will fund the MDNR to do it as a State-lead project.

Michigan is negotiating with Allied Paper to relocate a segment of Portage Creek in order to drastically reduce to leaching of PCBs into the creek from the Bryant Mill Pond sediments. This relocation will be treated as a removal action. Region V expects to initiate a removal action by early August at the Panelyte site, which is adjacent to Bryant Mill Pond. Panelyte is an abandoned factory contaminated with PCBs from transformer spills. Both the Bryant Mill Pond and Panelyte are to be fenced this month to limit public access to these sites.

Michigan is also pursuing interim actions to reduce PCB loadings to the Kalamazoo River from two other contaminated hot spots along the river: the Plainwell Dam sediments and Georgia-Pacific's Willow Avenue landfill. The Willow site is outside the presently proposed NPL site, but future Superfund involvement at the Willow site is not precluded. MDNR estimates that, if these three interim actions (Portage Creek, Plainwell Dam, and Willow site) are implemented as they envision, PCB loadings to Lake Michigan from the Kalamazoo River will be reduced 40 percent. Region V is closely monitoring MDNR efforts at these three sites. These removal actions will not preclude a comprehensive examination of contamination and possible long-term remedies through the RI/FS for the NPL site.

4. Question: During the hearing, Mr. Adamkus indicated that EPA will work to ensure the submission of all U.S. Stage One RAPs to the IJC by the end of 1991. The Subcommittee welcomes this goal. Please indicate whether EPA also plans to finalize one or more of the RAPs that have already undergone IJC review by including such RAPs in the relevant State water quality plans. If so, please provide the number EPA will try to finalize during 1991.

Answer: In its FY 1991 program guidance to the States, EPA Region V requested that each FY 1991 State water pollution control program plan include a schedule for developing RAPs. For each Area of Concern (AOC), the States were asked to provide:

1. The projected date for submitting the Stage 1 and Stage 2 RAPs to the IJC for review and comment (States are expected to submit FY 1991 work plans [water pollution control plans] to EPA by August 15, 1990); and,

2. The projected date for State certification of the RAPs to the U.S. EPA for review and approval as an update to State Water Quality Management (WQM) Plans.

Draft State FY 1991 work plans are currently being received, and EPA will negotiate final schedules for incorporation of RAPs into State Water Quality Management Plans. When final, EPA will provide these schedules to the Subcommittee. In addition, EPA is encouraging State submission of RAPs to the IJC. EPA anticipates reviewing for finalization 21 Stage 1 RAPs by December 1991. It is important to note that RAPs are intended to be "living" documents subject to continual review and update.

EPA Region V is reviewing the State of Michigan RAPs that were previously submitted to the IJC. The State is not currently working on resubmittal of any of its Stage 1 RAPs for the IJC, and the EPA review is to identify any changes in the RAPs that might be necessary prior to EPA approval of updates to the State WQM Plan. Completion of the review is planned for the first quarter in FY 1991.

Preliminary discussions have been held with the Michigan Department of Natural Resources regarding the process to be employed in completing revisions to RAPs that are incorporated into the State WQM Plan. EPA hopes to meet with MDNR in the near future to complete agreement on that process. The process required will certainly include a schedule and an estimate of the resources needed to complete the revisions. The schedule is likely to tie into the schedule for other water pollution control and remediation program activities within each AOC basin. MDNR is revising the Continuing Planning Process (CPP) required under Section 303(e)(3) of the Clean Water Act, and EPA has encouraged the State to make the RAP revision process part of the CPP.

There are six AOCs in New York State, which is the only Great Lakes State in EPA Region II. Two of the RAPs for these AOCs have already been submitted to the IJC, and are now under review. Four others are in various stages of completion.

EPA Region II intends to establish a review process to incorporate RAPs into the New York State WQM Plan. The process will start after each RAP has been reviewed by the IJC, and is deemed complete by the State.

5. Question: During the hearing, you promised to determine whether EPA could expedite the establishment of five "master" air toxics monitoring stations to meet the United States' 1987 commitment to expand the Great Lakes Air Deposition (GLAD) Network. Expedited action would also enable these stations to collect baseline data prior to implementation of the new Clean Air Act. Please provide your analysis of the situation and whether any Great Lakes stations in addition to the two already operating could be established during 1991.

Answer: Under existing resources, the five "master" air toxics monitoring stations in the United States/Canada Integrated Atmospheric Deposition Network will be established in accordance with the current schedule. The Plan has three phases: three master stations (1 U.S. and 2 Canadian) will be established during the first phase; a second U.S. station will be established on Lake Erie in May 1992; and a final U.S. station will be established in May 1993 on Lake Michigan. This schedule anticipates locating one master station on each of the Great Lakes by the summer of 1993. In addition, the existing Green Bay master station will continue to operate during this period, but will be moved to the "downwind" side of Lake Michigan in May 1993. (A copy of the Parties Implementation Plan and schedule for the U.S./Canada Integrated Atmospheric Deposition Network (IADN) as approved at the June 1990 meeting of the parties is enclosed for review. See attachment 1.)

The three phases of the IADN Plan will each last for a period of two years. Phase 1 commenced in January of this year.

Phase 1: During Phase 1 of the Plan, the Parties are currently initiating sampling at one master site each. The U.S. site to be located on the south shore of Lake Superior will be established this August. The Canadian site is located at Point Petre on Lake Ontario. By April 1991, Canada will initiate construction of the third master site on Lake Huron.

Phase 2: Phase 2 will be initiated in January 1992, and will run through December 1993. During 1992, five satellite stations in Canada and six satellite stations in the U.S. will be selected and implemented. The satellite sites in the U.S. will be added to both sides of the four international lakes, two U.S. stations to Lake Michigan and one Canadian station northwest of the Great Lakes Basin.

In addition during Phase 2, as mentioned above, the master site on the southeastern shore of Lake Erie will be established by May 1992 and the master site on Lake Michigan will be established by May 1993.

Phase 3: Analysis of data from the five master sites and eleven satellite sites for Phases 1 and 2 will be completed by June 1994. At that time, the Parties will determine the need as well as the sites for up to an additional eleven satellite stations. The intention is to have one station added on each side of each international lake, two U.S. stations on Lake Michigan and an additional station northeast of the Great Lakes Basin in Canada.

It is important to note that the purpose of these master stations is to initially provide a platform for development of improved sampling and analytical methodologies and to support process oriented research. It is unlikely that the stations will provide sound "baseline data" for each of the Great Lakes within the next 3 to 4 years due to the time required to perfect and validate methodologies.

6. Question: During the hearing, you promised to keep the Subcommittee informed about the July meeting of EPA's Great Lakes Advisory Committee, which will be the first full meeting of the expanded committee. Please indicate whether EPA will provide the minutes from that meeting. Also, please provide the remaining schedule of committee meetings during your tenure as chair.

Answer: Following the hearing, the Deputy Administrator greatly expanded the scope of work to be undertaken by the Great Lakes Advisory Committee (GLAC) under his chairmanship. In a July 2, 1990, memorandum, the Deputy Administrator asked the expanded GLAC membership to review the current Five-year Program Strategy for the Great Lakes (1989-1993) to determine whether it needed to be revised. He also asked the Region V Deputy Administrator to prepare a draft outline for a cross-media FY 1991 operating plan. A copy of that memorandum is attached. (See attachment 2.)

Given the expanded effort and the need for adequate preparation time, the GLAC meeting is now scheduled for August and will coincide with major Agency funding decisions for FY 1992. EPA will provide the Subcommittee with a summary of that meeting. It is anticipated that subsequent meetings will occur on a quarterly basis. At the hearing, the Deputy Administrator indicated he would give the Subcommittee regular status reports throughout this period, and would continue to talk with the Subcommittee about how things were progressing. The Deputy Administrator anticipates scheduling the first of these updates shortly after the August GLAC meeting to fully inform the Subcommittee of the GLAC's decisions and directions.

7. Question: During the hearing, you indicated that the Green Bay Mass Balance Study is expected to produce a "completed product" in FY92. Please describe the nature of this product, whether it will describe the study results in layman terms, and what quarter of the 1992 fiscal year it is expected to become available to the public.

Answer: The report for the Green Bay/Fox River Mass Balance Study will consist of 3 sections. The first, an Introduction and Summary, will describe the background, results and implications of the study. This section will be written in non-scientific language. The second section will be a management report, written in semi-technical style, that will evaluate the management utility and implications of the study. The third section will consist of a collation of all the principal investigators and agency reports, and will, by necessity, be scientific in nature. The final report is expected to be available in the second quarter of FY 1992.

8. Question: During the hearing, you stated that EPA is working "on a major new initiative" with Canada to develop "pollution prevention strategy for the Great Lakes" and on a new initiative within EPA called the "Environmental Monitoring and Assessment Program" which could be applied to the Great Lakes. Please describe both initiatives and provide copies of the documents establishing them.

Answer to be provided.

9. Question: During the hearing, you promised to provide certain budget information on EPA's Great Lakes programs and Great Lakes National Program Office (GLNPO). Testimony provided by you and Mr. Adamkus repeatedly cited a lack of resources as part of the reason for slow progress on critical Great Lakes programs, including the Remedial Action Plans, the Lakewide Management Plan for Lake Michigan, the expanded GLAD Network, and adequate SPCC inspections. Please indicate whether: (a) EPA requested a budget increase for Great Lakes programs and GLNPO for FY90; (b) EPA will request a budget increase for these programs and GLNPO for FY91, and (c) EPA will support an increased authorization for GLNPO for FY91 in light of the inadequate progress to date and EPA plans for an accelerated and expanded federal commitment to Great Lakes programs.

Answer to be provided.

10. Question: During the hearing, you described ongoing efforts on the Lakewide Management Plan for Lake Michigan, the ARCS Program to test sediment cleanup technologies, and the Great Lakes Initiative to develop more uniform water quality standards for Great Lakes waters. Please notify the Subcommittee in December 1990 regarding: (a) the status of the Lake Michigan Plan, including when a draft plan will be made available for public comment; (b) the specific sites and technologies to be tested in the ARCS Program during 1991, and (c) the status of the Great Lakes Initiative and the dates by which specific proposals will be made available for public comment.

Answer: We will provide the Subcommittee with the requested information no later than December 1990. In the meantime, we have attached a number of informational items: a brief description of the five ARCs demonstration sites, with a more detailed fact sheet on Saginaw Bay Activities; and a tentative schedule for upcoming activities on the Lake Michigan Lakewide Management Plan. (See attachments 8, 9, and 10).

Integrated Atmospheric Deposition Network Implementation Plan

prepared by

Canada/U.S. Coordinating Committee on Annex 15

March 6, 1990

presented to the Parties to the Great Lakes Water Quality Agreement

June 14, 1990

Milestones for Implementation of the Integrated Atmospheric Deposition Network

PHASE I	PHASE II	PHASE III
January 1990*	January 1992	January 1994

- QA/QC
  - Exchange QA Project Plans (May '90)
  - Coordinate Agency QA Plans (e.g. Intercomparison/Round Robin) (1990)
  - Contract IADN QA Manager
  - Develop IADN Program Plan (October '90)
- Siting Criteria (May '90)
- Select/Construct Master Sites (1990)
  - Pt. Petre (CAN; Lake Ontario)
  - Keweenau Peninsula (U.S.; Lake Superior)
- Co-location of CAN/US Sampling Equipment (1990), Pt. Petre
- Select Chemicals for Monitoring (Jan. '90)
- Meeting CAN/U.S. Coordinating Committee (2 x per year)
- Initiate Research Activities
- Select/Construct CAN Master Site (April '91) (Lake Huron)
	- Update Estimates of Atmospheric Deposition (Jan.'92 thereafter annually; CAN/US Coord.Comm.)
	- Review IADN and research activities (Jan.'92; CAN/US Coord.Comm.)
	- Project Complilance with IADN Program Plan (QA) (IADN QA Manager)
	- Review and modify chemical list for IADN
	- Select/Construct US Master Site(s)
	  - Lake Erie site (May '92)
	  - Lake Michigan (east. side) (May '93)
	- Select/Construct Satellite Stations (1992)
	  - 1 per international lake (U.S.)
	  - 1 per international lake (CAN)
	  - 2 sites on Lake Michigan (U.S.)
	  - 1 site upwind of GL's (ELA) (CAN)
	- Continue research activities
		- Update estimates of atmospheric deposition (Jan. '94; annually; CAN/US Coord.Comm.)
		- Review IADN and research activities (Jan. '94; CAN/US Coord.Comm.)
		- Review/modify chemical list
		- Select/Construct Satellite Stations number and location to be determined
		- Continue research activities
		- Network Implementation (Dec. '95)

*each phase is 2 years in length

Integrated Atmospheric Deposition Implementation Plan

Introduction

The Great Lakes Water Quality Agreement, first signed in 1972, has evolved over the years. In 1987 new annexes were introduced into the 1978 version of the agreement. These updates to the agreement recognized the importance of the complete Great Lakes eco-system. In particular, Annex 15 was included to deal with the problem of airborne contaminants in the Great Lakes Basin. The influence of airborne contaminants will be an important factor to consider when developing Lake-Wide Management Plans for each of the Great Lakes. Annex 15 has four main components: an enhancement of the measurement of the importance of the air pathway for toxic substances through the establishment of an integrated monitoring network; improvements in our understanding of the processes in the atmosphere that influence the fate of toxic substances through an enhanced research program; identification of the human health aspects of the problem; and the development of appropriate control strategies. The purpose of this document is to outline an implementation plan for the establishment jointly by Canada and the United States of the Integrated Atmospheric Deposition Network.

In July 1988, The International Joint Commission published the report to the Water Quality Board prepared by the Atmospheric Deposition Monitoring Task Force of the Surveillance Work Group. The report outlined a three phase plan for addressing the problem of airborne toxic substances in the Great Lakes Basin. A key element of this plan was the establishment of an Integrated Atmospheric Deposition Network for the Great Lakes Basin. This network would consist of several Master (research grade) Stations augmented by a number of Satellite (routine) stations. The objective of this network was to acquire sufficient, quality assured data to estimate with a specified degree of confidence the loading to the Great Lakes Basin of selected toxic substances. The relative importance of the atmospheric pathway could then be ascertained and appropriate control strategies developed. The IJC report also identified many critical research issues that must be addressed in order to understand and quantify the importance of the atmospheric pathway for toxic substances.

Although resources were scarce, some efforts to address the airborne toxics issues continued. A Canadian Master station was established at Point Petre (1988) providing a platform for many agencies to take simultaneous measurements of a number of substances in a number of ways. The United States established a Master station at Green Bay (1987) to monitor airborne toxics and study their effect on the region.

On December 4 to 5, 1989 a U.S./Canada group of managers and scientists met in Detroit to begin preparation of an implementation plan for the envisioned Integrated Atmospheric Deposition Network. The implementation provides detail and specific direction over the next 6 years and follows directly from the more general IJC report. Research issues were not explicitly addressed at the December meeting or in the document that follows, however, the importance of on-going research in developing a clear understanding of atmospheric pathways and fate of toxic substances should not be understated.

The following document considers various aspects of a workable implementation plan. The problem was divided into three parts; 1) the choice of chemicals to be measured, 2) the siting criteria and sampling methodology and 3) the Quality Assurance/Quality Control required. These categories are somewhat arbitrary and the inter-relationships among them are many. However, for planning purposes it is useful to maintain the distinction.

Determination of Chemicals to be Measured

Several hundred toxic chemicals have been be detected in the Great Lakes Basin of which many are thought to have a significant airborne component. In choosing appropriate chemicals to measure in the Integrated Atmospheric Deposition Network a number of criteria are important.

Criteria for Selection of Target Atmospheric Pollutants

- The substances are listed in List 1 of Annex 1 of the Great Lakes Water Quality Agreement. This list includes substances believed to be toxic and believed to be present in the Great Lakes.
- The substance is currently an established or perceived water quality problem. The toxicology of the substance may indicate a potential serious problem; the substance may bio-accumulate or be persistent. The loading to the eco-system can then become significant. The human health concerns could be a factor.
- The substance is now on the Water Quality Board's list of critical pollutants.
- Evidence exists that the chemical is present in the atmosphere (rain, snow, aerosol) and/or has an important atmospheric pathway (volatilization; occurrence in remote lake/peat sediments).
- The chemical should be feasible to measure in a routine monitoring network. Routine in this sense means a sequence of collection, transport, processing and analysis procedures can be performed in a prescribed manner.

The Selection of Phase I Substances

Phase one is considered to be the first two years of the program. Naturally in this phase a significant emphasis will be on research. Evidence is required to establish whether any toxic chemical can be routinely monitored in ambient air or in wet deposition samples. The dry deposition will be estimated using air concentrations. Therefore, the toxic chemicals measured in Phase I should be selected to demonstrate feasibility and efficacy of the methodology, namely:

1. PCBs: Total PCBs and major congeners
2. HCHs: α , γ isomers
3. PAHs: B[a]P (goal)[1]
4. Pb

The selection of specific compounds within families will be established by regular consultation.

As a second priority, methodologies will be developed and applied for the following compounds:

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[1] The PAH B[a]P is among the most difficult of all the PAHs to determine. Sampling is particularly difficult as this PAH is chemically very reactive with ambient oxidants and is subject to UV degradation. Other less reactive PAHs will be sampled along with B[a]P. There is no doubt that B[a]P is an important substance and work should continue on an appropriate sampling procedure.

- Cl-pesticides such as DDT plus metabolites; chlordane; nonachlor; heptachlorepoxide; methoxychlor; dieldrin; HCB; endrin

- Trace Metals - Arsenic, Selenium, Cadmium, Mercury

Substances Requiring Extensive Methodology Development

A number of other chemicals are known or suspected of having an important atmospheric pathway. However, the following chemicals require extensive method development and/or confirmation of their importance. The topics requiring attention include:

- Some chemicals, such as the Cl-benzenes, with an established atmospheric component to their environmental cycling, may require methodology development in order to take valid measurements.

- A wide range of PAHs are present in the Great Lakes eco-system. Although there are currently very few measurements, PAHs have an important atmospheric pathway. The measurement methodology for a broad range of PAHs requires considerable improvement.

- Toxaphene is present in the Great Lakes eco-system and has been shown to be transported by air from large distances. The analytical methodology requires considerable improvement before extensive atmospheric sampling can be done.

- There are a variety of toxic substances which may have an atmospheric pathway but as yet there is a lack of definitive data to establish the existence or importance of this pathway. As well, routine analytical procedures generally do not exist for these substances. For example, co-planar PCBs, dioxins and furans.

- New chemicals are being introduced each year into the Great Lakes Basin. The significance of these chemicals is largely unknown. A range of modern agrochemicals, such as Triazines, Alachlor/Metachlor, as well as, industrial chemicals such as plasticizers, PCB substitutes, etc. may have to be studied.

Stations, Siting, Samplers, and Sampling Protocols

Each of the three phases of the Integrated Atmospheric Deposition Network Plan will last for a period of two years, commencing with the implementation date of January 1990. This section considers four aspects of the implementation:

- The number of stations in the network
- The siting criteria for those stations
- The sampling equipment to be used at those stations
- The sampling protocol for the acquisition of deposition data.

Number of Stations in the Network

The final design of the network will be based on the knowledge gained during the phased approach of the implementation. As such, the final number of stations is still open to determination based on criteria associated with spatial homogeneity of the deposition fields, temporal scales of the deposition variation, and the importance of local physical variables of deposition, many of which can be identified but currently are not quantified. The first priority of the network will be to determine the deposition of toxic chemicals to the Great Lakes from the air in terms of annual averages, but to the extent possible, the network will address source region attribution questions. While the deposition processes are governed by very short time scales, annual average deposition can be determined with much longer scale sampling times. Although sampling should occur at the shortest temporal scale which can be accommodated by data quality, logistics and cost, the smallest scales will be below network resolution. It is felt that the design of the IJC Plan is basically correct for the objective of determining longer scale loadings to the Great Lakes Basin; that is, there is a requirement for five research grade Master Stations throughout the Great Lakes basin and up to twenty-two routine measurement or satellite stations within the basin.

During Phase I of the Plan, the Parties will initiate sampling at one Master Station site each. Master Stations will be designed with sufficient space and infrastructure to accommodate temporary, intensive research efforts. Canada has chosen Point Petre on Lake Ontario as its initial Master Station site. The U.S. has operated a Master Station grade site at Green Bay from April 1987 to the present. It is planned that during Phase I, a more regionally representative site will be established on the south shore of Lake Superior during the summer of 1990. The Green Bay site will continue to operate at least until the end of the Green Bay Mass Balance Study.

By April 1991, Canada will initiate construction of the third Master Station on Lake Huron. Two U. S. Master Stations will be sited: one on the southeastern shore of Lake Erie and one on Lake Michigan. The Lake Erie site will be implemented at the beginning of Phase II and the Lake Michigan site during Phase II. Phase II under this plan will be initiated in January 1992 and will run through December 1993. During 1992, five satellite stations in Canada and six satellite sites in the U.S. will be chosen and implemented. The intent is that one satellite station will be added to each side of each of the four international lakes, two U. S. stations to Lake Michigan and one Canadian station northwest of the Great Lakes basin.

Analysis of data from the five Master Stations and eleven satellite sites for Phases I and II will be completed by June 1994. At that time the Parties will determine the need for, and the necessary sites for, up to an additional eleven satellite stations. The intent is to have one station added on each side of each international lake, two U.S. stations on Lake Michigan and an additional station northeast of the Great Lakes basin in Canada.

Siting Criteria

It is desirable to place each station physically as close to the Lakes as is logistically possible. Although the impact of urban sources on deposition to the lakes and of land/lake breeze circulation was considered, these effects will be difficult to discern, in a statistical sense, from the general noise in the annual average deposition data and thus should be ignored initially. Research to quantify the level of the smaller scale impacts must take place within Phases I and II. To this end, use of a ship or offshore platform for collection of samples downwind of urban centres is recommended as an effective research approach especially when coupled with model studies.

A siting criteria document will be produced by May 1990. The document will consider the general principles of future station siting and give optimal guidelines to be followed by the Parties. When no appropriate site can be found meeting all criteria, it is agreed that the Parties may deviate from the guidelines provided there is reasonable justification and mutual consultation.

Sampling Equipment

There are currently variations in the types of samplers being used to measure air and precipitation concentrations of organics and trace metals in the Great Lakes. It is not recommended at this time that a formal decision be taken on the types of samplers to be used in the network but rather that Phase I be used to evaluate the sampler methodologies used by the agencies involved in Great Lakes sampling. To that extent, reference is made to Tables 4 and 5 of the IJC plan. The initial Master Station complement will consist of:

- 1 precipitation sampler to measure nutrients and inorganic chemicals in wet deposition in order to compare with existing networks.
- 1 precipitation sampler to measure trace metals in wet deposition
- replicated precipitation samplers to measure toxic organics in wet deposition (2 or more)
- replicated high volume air samplers with filter/adsorbent combinations to measure gaseous and particulate toxic organics in air (2 or more)
- 1 high volume sampler to measure total suspended particulate mass loading in air and total organic carbon
- 1 sampler for trace metals in air
- A set of meteorological instruments to measure rain and snow intensity and amount, temperature, relative humidity, wind velocity and solar radiation.
- dichotomous Hi-Vol samplers[2]

The initial satellite stations will have one sampler for the measurement of each of:

- trace metals in precipitation
- trace metals in air
- toxic organics in precipitation
- toxic organics in air
- Total suspended particles

plus meteorological instruments to measure rain and snow intensity and amount, temperature, relative humidity, and wind velocity.

During Phase I, differing sampling methodologies will be examined and not precluded between the Parties. The QA/QC programme will address the significance of the difference between the sampling methodologies. Subsequently, after the Critical Network Design Review (June 1992), the Co-ordinating Committee will make recommendations to the Parties for sampling methodologies for the Master and Satellite stations.

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[2] High-volume and low-volume dichotomous air samplers will be installed at a single Master Station early in Phase I in order to evaluate their performance side-by-side with existing air samplers. Before the beginning of Phase II, a decision will be made on whether dichotomous samplers will be chosen for air sampling at all Master sites and Satellite sites.

Sampling Protocols/Analysis Protocols

It is recognized that current sampling and analysis protocols differ between the Parties due to a number of factors including sample handling capacity, sampling protocols which agree with other sampling networks, expected need for valid sample volumes, and tested sampling procedures. During Phase I such disagreements between protocols will be accepted but comparability should be established by the time of the Critical Network Design Review during Phase II (June 1992). Each agency will document their current sampling and analysis protocols for exchange under the QA/QC programme before June 1990.

It is recognized that the requirement of the network to deliver estimates, with a specified degree of confidence, of annual deposition to the Great Lakes is not necessarily the same requirement as to deliver information on source identification information for input to remedial action strategies. Source identification information can be delivered by specific research programmes in cooperation between the Parties for intensive periods at the Master Stations or other appropriate sites.

Quality Assurance and Quality Control

The Integrated Atmospheric Deposition Network will consist of individual stations, run by different US and Canadian agencies. To be useful, the data generated by each of the agencies will need to be combined into one data set. Thus the data from each individual project will need to be demonstrated to be of comparable quality. Generation of comparable data by the individual agencies will only be accomplished if each of the agencies adheres to a thorough, Program-wide QA/QC Plan.

The work will begin immediately on the design and development of a Quality Assurance Program Plan for the overall monitoring network. This plan will address the following issues:

- Quality assurance objectives
- Procedures for demonstrating and assessing performance

Quality Assurance Objectives

A clear definition will be provided of relevant QA components, which will be used to assess the performance of a monitoring agency, and ultimately determine the acceptance/ non-acceptance of a data-set.

It is agreed that clear data quality objectives be set for each chemical (or group of chemicals) to be monitored on a routine or research basis. For each contaminant, these objectives will be based upon the estimated amount entering the Great Lakes and the significance of the atmospheric components.

The data quality objectives will govern all aspects of the measurement process, i.e. sampling, analysis, data reduction/reporting. The data quality objectives will be used as the basis for the final acceptance of data from a given agency.

It will be the responsibility of each agency to document compliance/attainment of the data quality objectives. The program plan will also provide clear guidelines as to the procedures by which this attainment should be assessed.

Procedures For Demonstrating and Assessing Performance

For each of the specified quality assurance components included in the data quality objectives, procedures will be defined for individual agencies to demonstrate attainment. For instance, precision of analysis for a given target species should be assessed by the approaches of duplicate sampling in the field. Replicate analyses in the laboratory will provide another measure of precision.

The procedures can be roughly divided into

- Internal procedures
- External procedures

Internal procedures can be defined as those methods that can be employed by a given agency to confirm data quality, e.g., regular calibrations, complete documentation, internal audits.

External procedures are defined as those methods which will require intervention by an outside party, e.g., external audits, laboratory inter-comparisons, co-location of samplers employing different approaches, etc.

Preparation of the Plan

The QA Program Plan will be developed by October 1990. Development of the network QA Program will be undertaken by a contractor under the management of the QA/QC Working Group. To assist in the development of the Program Plan, each agency will provide copies of existing approved QA Project Plans to the co-chairs of the QA/QC Working Group by the end of May 1990.

Implementation of the Plan

To ensure the effective implementation of the QA Plan, the following actions are required.

- The appointment of a QA Manager to oversee the whole program is strongly recommended. Failing that, the appointment of QA officers by each of the parties will be required.

- To assure compliance with the QA/QC Program Plan and to demonstrate the production of comparable data, the QA Manager will be responsible for the organization and execution of external performance evaluation studies. This aspect needs to be implemented as soon as possible, since a considerable amount of data has already been collected by the various groups involved. The QA Manager will co-ordinate a series of sample exchanges/inter-comparison studies during early 1991 (or earlier if feasible).

- Individual Agencies will be required to demonstrate compliance with the data quality objectives in the QA Plan by October 1991. The supporting documentation that must be submitted to the QA Manager at that time will include:
    - QA Project Plans
    - QA Manuals
    - Performance Assessment Results

- At this point, the QA Manager will decide upon the overall suitability of data being generated by a given agency.

- The QA Manager will have ultimate responsibility for acceptance of final data sets from approved agency monitoring networks.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 2 1990

OFFICE OF
THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Great Lakes Strategic Plan

TO: Great Lakes Advisory Committee Members

As you know, the Administrator recently asked me to chair the Great Lakes Advisory Committee. The purpose of the Advisory Committee is to establish a cross-media strategic plan for the Great Lakes, which will guide our efforts in the Great Lakes for the next three years. In order to keep this important initiative on track, I have asked Dick Bauer, our new Deputy Regional Administrator in Region 5 to schedule an Advisory Committee meeting as early as possible, to review our game plan prior to completion of our FY 92 budget process. In this connection, I would like you to review the below-listed assignments so that our first meeting is as productive as possible:

1. Five-Year Program Strategy - Attached is a copy of the Agency's 1989 five-year strategy for the Great Lakes. I would like each of you to review the strategy and return any comments or suggestions you have to Dick Bauer by July 25. It is my hope that with all the fine work that went into designing this strategy we can very quickly update this strategy, and reaffirm our commitment to the approach. In this connection, items that should be reworked or delayed should be noted. In addition, certain activities such as our research plans for the Great Lakes, our proposed Pollution Prevention Great Lakes project, our international activities and our geographically-based enforcement pilots are not included and should be included. Other activities from other programs may also be missing and should be noted.

2. State Grants - In order to maximize our efforts in FY 90, I have asked Dick Bauer, together with the Great Lakes National Program Office (GLNPO), to propose a strategy for processing state grant applications.

3. FY 91 Operating Plan - Taking comments received on the five-year strategy together with the commitments EPA has recently made to the Hill on our Great Lakes strategy, I have also asked Dick Bauer to outline a FY 91 operating plan, which I hope we can review at our August meeting. Once that plan is finalized, it is my intention to use the Great Lakes Advisory Committee as a quarterly management review committee--which will ensure that for FY 91 and beyond, we succeed in carrying out our plan and strategy.

Let me thank you in advance for your cooperation in this most important initiative. The Great Lakes provides us with the ideal laboratory for undertaking cross-program and cross-media approaches to improving one of our most valuable ecosystems. Bill and I are convinced that with your full help and support we can make a real difference.

F. Henry Habicht II
Deputy Administrator

Attachment

VIII. Assessment and Remediation of Contaminated Sediments (ARCS)

- The five ARCS demonstration sites are Saginaw Bay, Indiana Harbor/Grand Calumet River, Buffalo River, Sheboygan Harbor, and Ashtabula River.
- Work Plan developed for ARCS Program, addressing specific activities to be performed at each of the five priority locations.
- Large volume samples (100 gallons) of sediment collected for treatability testing from each of the five sites. Between ten and fifteen processes will be applied to selected samples from all five sites on a bench scale.
- Next year, pilot scale demonstrations will be conducted at selected sites. Anticipated that at least two such demonstrations will be conducted.
- Closely coordinating with Superfund program and analogous Canadian programs to maximize the number of demonstrations possible, and the information produced.

Saginaw River:

- December 1989 - surficial sediment sampled for detailed chemistry and toxicity testing.
- May 14-25, 1990 - conducted physical profiling and sediment coring. Conducting limited chemical analysis to determine amount of potentially contaminated sediment present at various depths.
- June 21-27 - second surficial sampling planned for detailed chemistry and toxicity testing. Will provide supplemental information, not previously collected.
- All information to be used for sediment mapping, which will be very useful in evaluating remedial options.

Indiana Harbor:

- August 1989 - surficial sediment sampled for detailed chemistry and toxicity testing.
    - Earlier in 1989, collected samples from Grand Calumet River for similar testing.
- August 13-24, 1990 - Will conduct sediment profiling and coring. Information to be grouped together for sediment mapping.

Buffalo River:

- October 1989 - sampled surficial sediment for detailed chemistry and toxicity testing.
- July 9-21, 1990 - Will conduct sediment profiling and coring. Information to be used for sediment mapping.
- September 1990 - All sediment assessments sampling to be completed.
- Considerable chemical and biological analysis completed. Will be available after quality assurance checks completed.
- All data from above sampling expected to be available in raw form by the end of 1990 (Dec).
- Data interpretation and mapping will continue into 1991.

Sheboygan Harbor/Ashtabula River:

- Chemical/biological sampling NOT performed by ARCS program. (Considerable Superfund activity at both sites focusing on contaminated sediment.)
- ARCS program will supplement needed information where necessary, but not duplicate such activities.
- There are two FTEs allocated from Superfund to GLNPO coordinating ARCS and Superfund activities.

4-23-90

USEPA Great Lakes National Program Office
Assessment and Remediation of Contaminated Sediments Program
Update on Saginaw Bay Activities

A number of activities are presently underway in the Saginaw area as part of the Assessment and Remediation of Contaminated Sediments (ARCS) program. Section 118 (c)(3) of the Water Quality Act of 1987 identified five areas to be given priority consideration under the ARCS program, of which Saginaw Bay is one (the others being Ashtabula, Buffalo, Indiana Harbor and Sheboygan). There is a considerable amount of work underway and planned for the Saginaw River. The ARCS program is focusing on the Saginaw River, as it is more limited in size than Saginaw Bay and is therefore a better candidate for remediation. We are, however, giving attention to the effect of contaminated sediment present in the River on the Bay ecosystem.

A brief synopsis of ARCS activities at Saginaw is as follows:

o Saginaw River surficial sediment samples taken (first week of December 1989) for chemical analysis, bioassays (acute toxicity, chronic toxicity, mutagenicity, bioaccumulation), and benthic community structure evaluation. Chemical and biological tests have been performed, and data will be available when quality assurance checks are completed.

o Toxicity Identification Evaluation (TIE) analysis performed by ERL-Duluth on Saginaw sediment from the above sampling. This test attempts to identify the contaminant, or class of contaminants, causing acute toxicity in the sediment. Preliminary data will be available when quality assurance checks are completed.

o One 100 gallon sample was collected from a reach of the Saginaw River thought to have heavy sediment contamination on December 7, 1989. An additional 50 gallon sample was collected from the Saginaw River near the General Motors plant, which appeared to be severely contaminated based upon the surficial sampling performed the previous week. Engineering treatability bench tests are being performed on these samples this FY (including metals recovery by the Bureau of Mines, and three extraction processes, that are effective on organics, to be performed by a contractor).

o Sediment profiling and coring (3-D) will take place on the Saginaw River from May 7-19, 1990. This will give information on the volume of sediment present that may be contaminated, and, based upon a series of chemical (and one biological) "indicator analyses", additional information will be available on how much of this material is contaminated.

o An opportunity for the press, elected officials and the interested public to observe the above sampling activities (i.e., second week of May), is tentatively planned.

SCHEDULE FOR INITIATING THE LAKEWIDE MANAGEMENT PLANNING PROCESS FOR LAKE MICHIGAN

1. Establish a Policy Committee to oversee the development and implementation of the Lakewide Management Plan (LAMP)..........................November 1990.
2. Develop a draft Scope of Work which describes the goals and objectives of the LAMP, the procedures for decision making, the initial activities, and a general timeline..October 1990.
3. Develop a draft Baseline Report to characterize the environmental condition of Lake Michigan, ongoing pollution control activities within the Basin, and pollutant load reductions achieved under existing environmental programs..................................October 1990
4. Develop a draft Communications Strategy for Policy Committee consideration, adoption, and implementation. This Strategy will address the formation of a Public Participation Committee; the development of general public education/technical outreach materials; and the implementation of a formal, broadly based public participation process.................................October 1990

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 6 1990

OFFICE OF CONGRESSIONAL
AND LEGISLATIVE AFFAIRS

Honorable Carl Levin
Chairman
Subcommittee on Oversight
of Government Management
Committee on Governmental Affairs
United States Senate
Washington, D.C. 20510-6250

Dear Mr. Chairman:

Enclosed are the responses to questions 8 and 9 which you submitted to the Environmental Protection Agency following the hearing on June 13, 1990, regarding actions being taken by Federal agencies to protect and improve the Great Lakes environment in accordance with the Great Lakes Water Quality Agreement between the United States and Canada. These responses were not available at the time of our earlier submission of responses to you on July 30th and we apologize for the delay in getting them to you.

I hope this information will be helpful to you and the members of the Subcommittee. If there is any further information we may furnish you, please do not hesitate to contact me.

Sincerely yours,

Barbara Bassuener
for Christopher P. Hoff
Deputy Director
Legislative Analysis Division

Printed on Recycled Paper

Questions submitted by Senator Levin and received following the June 13, 1990, hearing before the Subcommittee on Oversight of Government Management of the Senate Committee on Governmental Affairs regarding U.S. progress under the Great Lakes Water Quality Agreement. (Responses to Questions 8 and 9 which were not submitted on July 30, 1990, with the previous responses to Questions 1 - 7 and 10.

8. Question: During the hearing, you stated that EPA is working "on a major new initiative" with Canada to develop "pollution prevention strategy for the Great Lakes" and on a new initiative within EPA called the "Environmental Monitoring and Assessment Program" which could be applied to the Great Lakes. Please describe both initiatives and provide copies of the documents establishing them.

Answer: EPA is in the process of developing a Binational Pollution Prevention Strategy for the Great Lakes. This major new initiative by the U.S. and Canada is in the early working stages. While the Binational Strategy is a Federal lead, the funding to support the effort will come from the EPA Office of Pollution Prevention via a grant mechanism that requires funding through a state organization. The Council of Great Lakes Governors is preparing a grant proposal for developing the workplan for a Pollution Prevention Strategy for the Great Lakes Basin, with the active involvement of the Great Lakes National Program Office in both developing the workplan and developing and implementing the Strategy. (A copy of talking points on the binational Great Lakes Basin-wide pollution Prevention Strategy is included for review. See attachment 3.)

The Environmental Monitoring and Assessment Program (EMAP) is a new initiative by the EPA Office of Research and Development to establish an integrated, interagency monitoring program to assess the condition of ecological resources. The pilot project for EMAP is taking place this fiscal year in the mid-Atlantic Bight. EMAP will allow EPA to evaluate the success of current environmental policies and programs, and identify emerging problems before the become widespread or irreversible. Planning is underway to supplement existing Great Lake monitoring programs with EMAP concepts and resources, and to integrate results obtained from the Great Lakes International Surveillance Plan into the program. This will result in enhanced monitoring of the Great Lakes, more thorough evaluation of the status of the Great Lakes resources, and improved interpretation of trends observed in the Great Lakes in relation to trends observed nationwide.

(Copies of Ecological Research and Monitoring, A Strategic Approach; the Draft Design Report for the Environmental

Monitoring and Assessment Program; and the EMAP Monthly Progress Report dated May 25, 1990, are included for review. See attachments 4,5 and 6.)

9. Question: During the hearing, you promised to provide certain budget information on EPA's Great Lakes programs and Great Lakes National Program Office (GLNPO). Testimony provided by you and Mr. Adamkus repeatedly cited a lack of resources as part of the reason for slow progress on critical Great Lakes programs, including the Remedial Action Plans, the Lakewide Management Plan for Lake Michigan, the expanded GLAD Network, and adequate SPCC inspections. Please indicate whether: (a) EPA requested a budget increase for Great Lakes programs and GLNPO for FY90; (b) EPA will request a budget increase for these programs and GLNPO for FY91, and (c) EPA will support an increased authorization for GLNPO for FY91 in light of the inadequate progress to date and EPA plans for an accelerated and expanded federal commitment to Great Lakes programs.

Answer: (a) Yes, EPA requested a budget increase for the Great Lakes programs and GLNPO for FY 1990.

(b) For FY 1991, EPA requested $12,238,000 supported by 45.4 total workyears for the Great Lakes National Program and $1,959,000 for the Great Lakes National Program Office. This represents an increase in the Salaries and Expenses appropriation, a decrease in the Abatement, Control and Compliance appropriation, and an increase of 10.0 in total workyears. The increase in Salaries and Expenses supports the increase in total workyears. The decrease reflects the completion of major components of the Green Bay Mass Balance Study and of the refitting of the research vessel, MARSEA 14. (See attachment 7.)

(c) Yes, EPA will support an increased authorization for GLNPO for FY 1991, which will help carry out the Federal commitment to the Great Lakes Water Quality Agreement and Great Lakes programs.

TALKING POINTS ON POLLUTION PREVENTION

June 20, 1990

WHAT: Development of a binational, Great Lakes basin-wide pollution prevention strategy.

WHY: The Great Lakes retain virtually all pollutants discharged into the Basin.

Traditional "end-of-pipe" controls which attempt to take pollutants out of the wastestream cannot alone accomplish the difficult task of fully restoring the health of the Great Lakes ecosystem.

Pollution prevention is necessary in order to help us meet the terms of the Great Lakes Water Quality Agreement and the U.S. Clean Water Act.

The Great Lakes Basin is managed with an ecosystem perspective and therefore provides an ideal testing ground for pollution prevention.

BACKGROUND: Elements of pollution prevention are embodied in:

- U.S. and Canadian environmental statutes;
- the Great Lakes Water Quality Agreement;
- the Great Lakes Governors Toxics Substances Control Agreement; and
- the Great Lakes Water Quality Initiative.

All eight Great Lakes States, the Provinces of Quebec and Ontario, and the Canadian and U.S. Federal governments have initiated pollution prevention efforts.

Yet, the initiatives are disparate activities with little or no coordination among the players. This often results in duplication of efforts and does not maximize the benefits of scarce resources.

There is a need for regional consensus on priorities to ensure that pollution prevention practices become a part of "the way we do business" in the Basin.

GOAL: To restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin Ecosystem.

THIS GOAL CAN BE ACHIEVED THROUGH AN ACTION ORIENTED STRATEGY. THE STRATEGY WILL:

1) Examine current approaches for pollution prevention;
2) Help prioritize pollution prevention activities and initiatives; and
3) Target reduction of pollutant loadings to the Great Lakes Basin.

SUPPORT ACTIVITIES:

1) Building an institutional framework for pollution prevention in the Great Lakes Basin through:

    a) coordination of various on-going pollution prevention activities in the Great Lakes Basin;

    b) building on and strengthening of existing pollution prevention programs and measures;

    c) incorporation of pollution prevention efforts into existing programs in the United States and Canada, e.g. regulatory and enforcement activities.

2) Prioritization of pollution prevention efforts in the Great Lakes Basin, e.g through identification of options and activities.

3) Reduction of Pollutant Loadings, as it will help to:

    a) complement ongoing restoration and remediation efforts, particularly RAPs and LAMPs;

    b) examine of new approaches to reducing and preventing pollution;

    c) implement of key pollution prevention features of regional agreements

FURTHERMORE, IT IS ENVISIONED THAT THE STRATEGY WILL:

- o Help to address basin-wide information needs for new technologies and processes for reducing or eliminating pollution.

- o Help to identify demonstration activities, both short-term and long-term, for new approaches to reduce pollution.

- o encompass a strong education and public outreach component.

WHO WILL BE INVOLVED: U.S. EPA, Environment Canada, the Provinces of Ontario and Quebec, and the eight Great Lakes States (Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Pennsylvania, and New York), other Federal agencies of Canada and the United States, industries and businesses, and public interest groups.

Environmental Monitoring and Assessment Program - EMAP

Goal

Monitor the condition of the Nation's ecological resources to evaluate the success of current policies and programs and to identify emerging problems before they become widespread or irreversible

Regulatory Questions

- What have we accomplished?
- How do we know our programs are or have been successful?
- Can we provide data to confidently verify the answers?

Is the aggregate of our regulatory decisions protecting our ecological resources?

Primary Monitoring Focus

- Ecosystems
  - Estuaries*
  - Wetlands
  - Lakes* and Streams
  - Forests*
  - Agriculture
  - Grasslands
  - Deserts
- Stresses
  - Air and deposition chemistry
  - Land use
  - Explanatory variables

---

* Highest priority for implementation

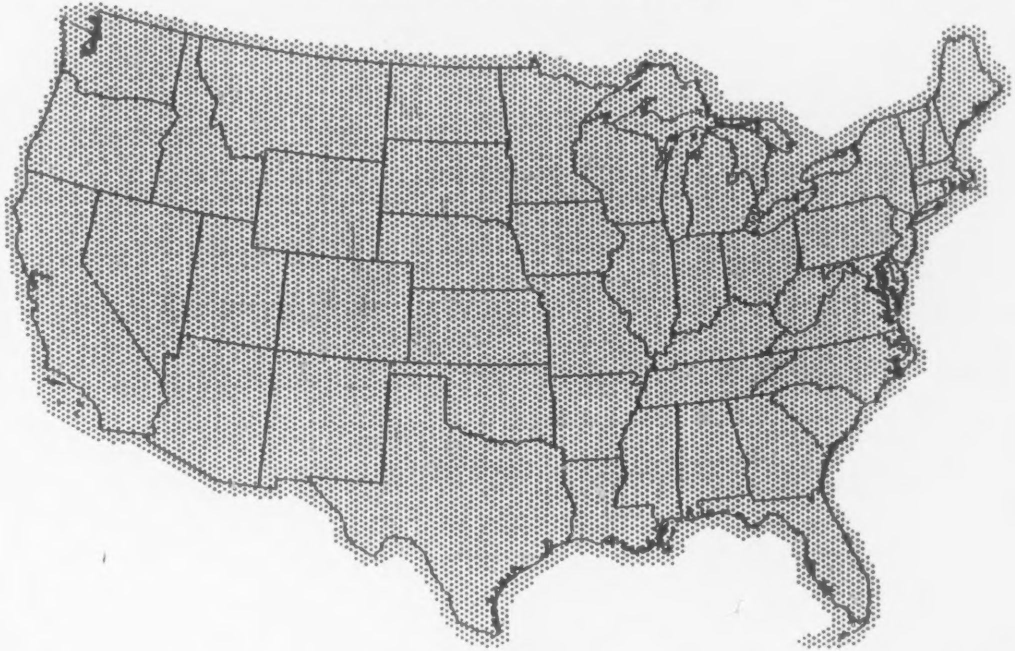
EMAP Challenges

- Select indicators of ecological condition and exposure/stress
- Design a cost-effective monitoring program to address multiple issues at multiple scales
- Establish an interagency, integrated, operational monitoring program

Sampling Design

- Identify ~12,500 40 sq km sites (~6% of U.S.)
- Using aerial photography and satellite imagery, inventory the resources to
  - Establish land-use data base (Landscape Characterization)
  - Quantify resources
  - Develop sampling frame for field monitoring
- Select an appropriate size subsample for measuring condition
  - At level of precision desired
  - Where the resource of interest is present

12,500 Points Over Contiguous United States



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EMAP Sampling Design

(Forest Example)

- Classify forest by interest category (30)
- Map classes at 12,500 site density
- Choose scale for which assessment is to be made (e.g., regionally or by state)
- Select measurements for response and exposure, appropriate to scale
- Select, at random, approximately 50 sites, for each class of interest, within geographic area(s) chosen
- Measure 25% of sites each year for 4 years to establish baseline, increasing precision annually (~800 sites/year nationally)

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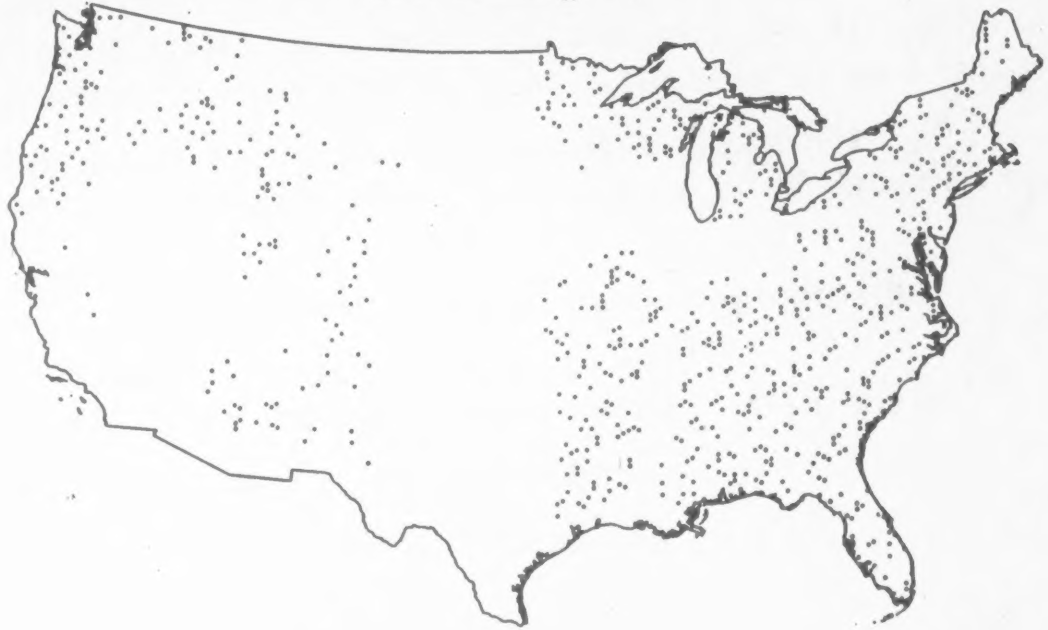
Forest Monitoring Sites (Year 1)

(An Example)



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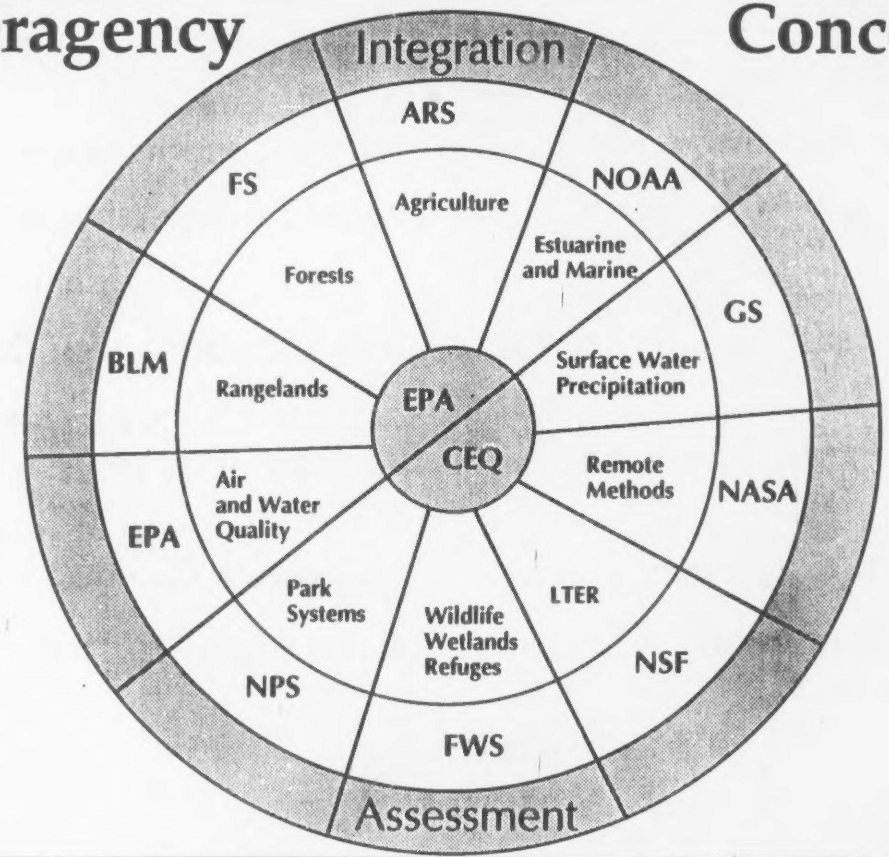
Interagency Concept


Integration
ARS
Agriculture
NOAA
Estuarine and Marine
GS
Surface Water Precipitation
NASA
Remote Methods
NSF
LTER
FWS
Wildlife Wetlands Refuges
NPS
Park Systems
EPA
Air and Water Quality
BLM
Rangelands
FS
Forests
EPA
CEQ
Assessment

Products

(Short-term)

- Evaluation and standardization of ecological indicators
- Methods, QA, and field manuals for collecting ecological data
- Statistical analysis techniques and monitoring design criteria and approaches
- Regional estimates/evaluations of
  - Land use
  - Baseline ecological condition and stressor/exposure distributions
- Assessments of relative risk and probable cause

Benefits of EMAP

- Success or failure of controls
- Objective allocation of resources
- Verification of predictive models
- Framework for trends analysis
- Identification of emerging problems

Current EMAP Activities

• Indicator Report	2/90
• Regional Sampling Frame and Strategy	2/90
• Mid-Atlantic Estuarine Demonstration (NOAA/EPA)	7-9/90
• Forest Pilot (FS/EPA)	6-9/90
• Ecosystem Designs	10/90
• Landscape Characterization of NE	12/90

Budget

($ in Millions)

Activity	1990	1991
Estuaries	6.0	8.1
Lakes and Streams	1.9	3.8
Wetlands	0.3	0.6
Forests	1.0	1.5
Agroecosystems	0.4	0.8
Deserts/Rangelands	0.3	0.4
Characterization	2.5	2.5
Air and Deposition	0.6	1.2
Data Management	0.6	0.7
Assessment	0.8	0.8
Env. Statistics	1.0	1.2
Coordination	2.5	2.1
QA		
Logistics		
Workshops		
Planning/Prog. Mgt.	1.1	0.3
Total	**19.0**	**24.0**

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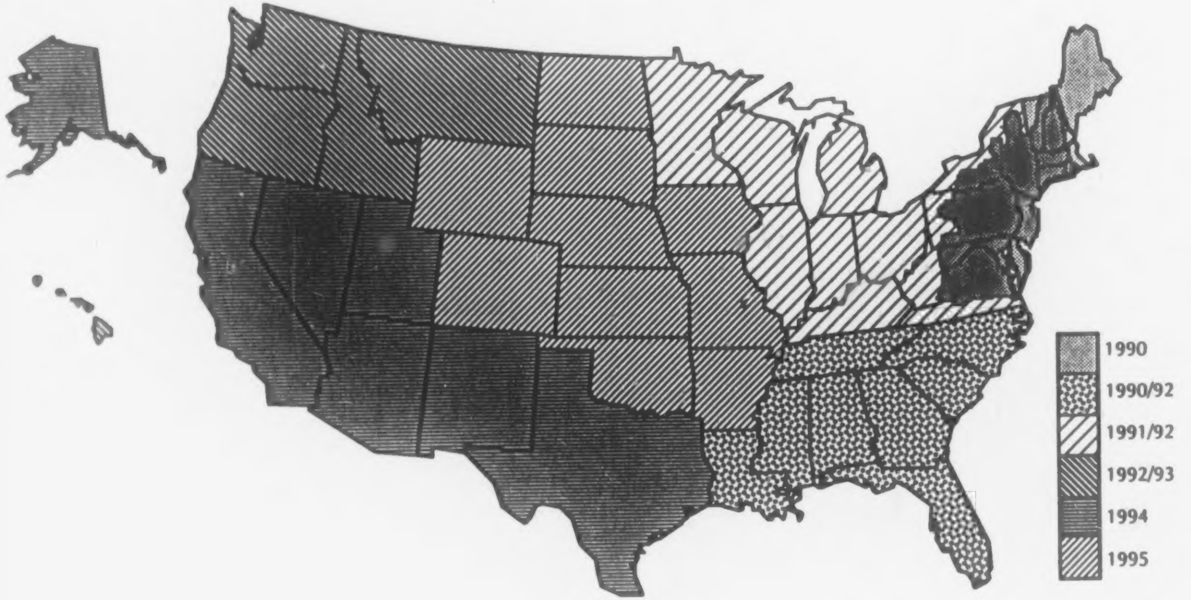
Long-term Regional Work Flow Plan


1990
1990/92
1991/92
1992/93
1994
1995

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EPA Environmental Monitoring and Assessment Program

Management Memorandum
Number 16

May 1990

EMAP

Preface

This report summarizes recent activities of the various components within the Environmental Monitoring and Assessment Program (EMAP). Information in this report was compiled from monthly status reports for April submitted by the following Program personnel:

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Carl Fox (Acting TD, Desert Research Institute, Reno, NV) - Arid Ecosystems
Craig Palmer (ERL-Corvallis, OR) - Forest Ecosystems
Steve Hedtke (ERL-Duluth, MN) - Great Lakes
Fred Holland (Acting TD, Versar, Columbia, MD) - Near Coastal Ecosystems
Steve Paulsen (ERC-University of Nevada, Las Vegas, NV) - Surface Water Ecosystems
Nancy Leibowitz (Acting TD, ERL-Corvallis, OR) - Wetland Ecosystems

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Tony Olsen (Acting TC, Battelle-PNL, Richland, WA) - Statistics
Bob Graves (Acting TC, EMSL, Cincinnati, OH) - Total Quality Management

For more information regarding the Program, please contact Rick Linthurst or Jay Messer.

MANAGEMENT MEMORANDUM 16
(April Activities)

Significant Accomplishments and Issues

General

- Tom Dixon (OMMSQA) and Bruce Jones (AD, Terrestrial Ecosystems) met with representatives from the Fish and Wildlife Service (FWS) involved in contaminants, regional research, and other technical issues. As a result of this meeting, Don Steffeck has agreed to develop an FWS-wide proposal for interaction with EMAP.
- The Office of Water Regulations and Standards (OWRS) has been given the lead to develop a strategy for interactions between EMAP, the Office of Water, and the state water regulatory agencies.
- The EMAP Steering Committee held its quarterly planning meeting in Chapel Hill, NC, on April 9-13. The agenda included discussion of a five-year program strategy; budget status and planning; management and communication issues; updates on the status of the design, indicators, and landscape characterization documents; and various technology transfer topics. Rick Linthurst (OD, OMMSQA) made a brief presentation on the ORD ecological research initiative. Technical Directors and Coordinators also gave brief updates on their progress.
- American Management Systems (AMS) has prepared drafts of several EMAP management documents, which include descriptions of roles and responsibilities for EMAP managers and technical leads and a budget planning process. These drafts have been distributed to the EMAP Steering Committee for comment.
- The EMAP Design was presented to the American Statistical Association (ASA) Panel in Dallas, TX, on April 19-20. Panel members were Drs. Linda Young (Oklahoma State University), Noel Cressie (Iowa State University), and Roderick Little (UCLA). Presentations of the design concepts and framework were followed by presentations for Near-Coastal, Surface Waters, and Agroecosystems. A Panel report is anticipated in mid-May. A draft of the EMAP Design Report and several technical supporting documents were completed and distributed to EMAP staff and the ASA Panel prior to the Dallas review.
- A total of 134 abstracts have been submitted for consideration as contributed papers or posters at the International Symposium on Ecological Indicators. A preliminary program announcement has been drafted and submitted for printing.
- Significant progress has been made on the revision of the indicators document. All comments from 22 external peer reviewers have been addressed by the Technical Directors, Jay Messer (Deputy Director, EMAP), and the report editors – Carolyn Hunsaker (ORNL) and Dean Carpenter (NSI/AREAL). The indicator approach will be presented to the Science Advisory Board in May.

Ecosystem Task Groups

Air and Deposition

- Maps of nitrate wet deposition were generated using the Air/Deposition combined data base for use by Near Coastal group members who are writing an example integrated assessment.
- Background information, data needs, and reporting requirements were developed for inclusion in the Air/Deposition Data Management Plan.

Characterization

- An internal review draft of the "EMAP Landscape Characterization Research and Implementation Plan" has been completed. Approximately 20 scientists from five different facilities prepared this document, which will be submitted for external peer review in June.
- A peer review panel consisting of remote sensing, GIS, and landscape ecology specialists is being assembled for a review of the characterization plan in June. Gene Thorley, of the U.S. Geological Survey's (USGS) National Mapping Division Director's Office, will chair the review.

Agroecosystems

- Julie Meyer, Northrop Services, Inc. (NSI) and Steven Peck, North Carolina State University (NCSU), completed an internal review draft of the "The Example Annual Statistical Summary" for agroecosystems. This document is a comprehensive example of the types of statistical data and the form of presentation that will be developed annually by the Agroecosystem Task Group. The draft is currently being reviewed by Agroecosystem Task Group members.

Arid Ecosystems

- A workshop was held with scientists and representatives from the Great Basin National Park (GBNP) on April 4-5 to assist GBNP in developing a proposal to address global climate change. The National Park Service (NPS) is allocating resources to 7-10 national parks for global change monitoring and research. Linkage with EMAP was included as part of the proposal.
- A workshop with research and management staff of the U.S. Department of Agriculture-Forest Service (USDA-FS) Intermountain Forest and Range Experiment Station was held in Reno, NV, on April 18. Plans to coordinate the station's monitoring and research efforts with the Arid Ecosystem Task Group's efforts were discussed. USDA-FS personnel will be included in subsequent workshops and meetings.
- Dr. Dale Johnson (Desert Research Institute, University of Nevada) has been designated as lead to develop a cross-ecosystem task group project for soils monitoring and assessment.

Forest Ecosystems

- Kate Dwire and Brenda Huntley (NSI) and Margaret Miller-Weeks (USDA-FS) completed an internal review draft of the field methods manual. This manual and an outline for the EMAP-Forests 1990 Field Season Study Plan were distributed for review to EMAP-Forests personnel as well as to members of the joint National Forest Health Monitoring Program. Bill Burkman (NSI) revised and submitted the Quality Assurance section for the USDA-FS New England Forest Health Monitoring Workplan.

Great Lakes

- Dr. Steven Hedtke (ERL-Duluth) has agreed to serve as Technical Director for the EMAP Great Lakes Task Group. John Paul (AD, Near Coastal) will work closely with S. Hedtke and Gil Veith (Director, ERL-Duluth) over the next year to develop an implementation plan for this component of the program.
- R. Linthurst, G. Veith and S. Hedtke met on April 23 with Carol Finch and Wayne Willford and their staff of the EPA Great Lakes National Program Office (GLNPO) to discuss monitoring activities on the Great Lakes. W. Willford described the ongoing GLNPO surveillance program, the monitoring requirements of the bilateral agreement with

Canada, and the projected additions needed to meet the new amendments to the agreement.

- Informal discussions were held with ERL-Duluth staff on potential integration of EMAP-Great Lakes with the ecological objectives of the International Joint Commission (IJC), Remedial Action Plans (RAPs), and Lakewide Management Plans (LAMPS). These objectives may be useful as data quality objectives leading to the development of ecological indicators for EMAP - Great Lakes.
- Preliminary discussions are underway regarding the use of the EMAP approach as a tool for monitoring the extent, spread, and ecological impact of the zebra mussel in the Great Lakes. This activity would be coordinated with the National Oceanic and Atmospheric Administration (NOAA), FWS, the Great Lakes Fisheries Commission, Canada Centre for Inland Waters, and the Ontario Ministry of the Environment. A workshop on this topic may be held this fall.

Near Coastal Ecosystems

- A peer review of the 1990 EMAP-Near Coastal Program Plan was held on April 16-18 in Washington, DC. The review panel was selected by the Estuarine Research Federation and included six estuarine scientists: Jerry Schubel (State University of New York, Chair), Don Boesch (Louisiana Universities Marine Consortium), Ken Tenore (Chesapeake Bay Laboratory), Robert Spies (Lawrence Livermore Laboratory), Tom Church (University of Delaware), and Mike Prager (Old Dominion University). The panel will provide a written review of the Program Plan by May 10. The plan is scheduled to be completed May 31.
- The sixth meeting of the EPA/NOAA Joint Committee for Coastal and Marine Environmental Quality Monitoring was held on April 17 in Washington, DC. EMAP is cooperating with NOAA on characterization studies of sediments and point/nonpoint source pollutants and is assisting with the development of QA/QC reference materials. Indigenous mollusks, to be collected by EMAP during the summer field sampling, will be analyzed for contaminant levels by NOAA in FY91 provided that one or more species are consistently collected . The Strategic Assessment Branch in NOAA has expressed interest in providing scientists to participate in the EMAP summer field sampling. The next Joint Committee meeting will be held on June 5 at ERL-Narragansett.
- Training will begin at ERL-Narragansett on May 29 for field crews participating in the EMAP-Near Coastal Demonstration Project. Field sampling is currently scheduled to begin on June 19.
- On April 4-5, a review of the EMAP-Near Coastal Information Management Plan was held at ERL-Narragansett. Reviewers included members of EMAP-Near Coastal and the EMAP Information Management Committee. On April 6, a review of the EMAP-Near Coastal Logistics Plan (Field Manual) was also reviewed at Narragansett. Both reviews highlighted the need to use hard copy data sheets, rather than computer files, as the primary data recording medium.

Surface Water Ecosystems

- The results of EPA's Long-Term Monitoring Project (part of ORD's acid deposition program) will be published in a special issue of *Water, Air and Soil Pollution*. A total of 11 papers will be included, 6 from the individual regions and 5 overview or inter-regional papers. Titles are provided under Publications/ Presentations. Review drafts are due July 1.

Wetland Ecosystems

- Nancy Leibowitz will contact Regions IV and VI to examine the feasibility of conducting a coastal wetlands pilot study in FY91.

Coordination Groups

Assessment

- On April 2-3, Kent Thornton (Acting TC, Assessment) attended the EPA Science Advisory Board's Environmental Process and Effects Committee (EPEC) meeting in Sterling, VA, and answered questions on the role of EMAP's Integrated Assessments in the ORD Ecological Risk Assessment Program. Two recommendations that influence EMAP Integrated Assessment activities were made by EPEC: (1) EPA and ORD should emphasize risk characterization early in the core research program, and (2) an ecological assessment using existing data should be conducted early in the program to identify critical gaps, evaluate existing tools and procedures, and develop conceptual approaches for ecological risk characterization studies. Both recommendations are being incorporated in the strategies for ORD's program and for EMAP.
- Working sessions for the Near Coastal Example Integrated Assessment were held on April 11 in RTP, NC, and on April 24 in Columbia, MD. As a result of these two meetings, the outline was refined, data sets and analysis approaches were identified, display formats were proposed, and writing assignments were made. This document is scheduled for completion in August.

Design

- D. White generated EMAP grid density enhancements for EMAP Surface Waters for use in the California Air Resources Board program that is monitoring high-elevation lakes in the Sierra Nevada. He also produced the 1/4 reduced baseline grid for the EMAP Characterization Task Group.

Information Management

- The draft charter for the Information Management Committee (IMC) was reviewed by the IMC Executive Committee. A complete version of the Charter is scheduled to be provided to the Steering Committee and the IMC by mid-May. Comments also were received on the draft Information Management Program Plan Outline from the Executive Committee. The final draft of this outline should be delivered to the entire committee for review by the end of May.

Logistics

- EMAP-Logistics and USDA-FS are jointly developing the sampling design for the Forest Ecosystem Indicator Evaluation Study. J. Baker (TC, Logistics) has begun developing an outline and soliciting information from EMAP-Forests on equipment/supplies needed for the upcoming field season.

Total Quality Management

- EMSL-Cincinnati will begin developing a total quality management plan for EMAP. Stan Blacker (Director, Quality Assurance Management Staff) has agreed to assist EMAP-TQM in this endeavor.
- The EMAP Quality Assurance Program Plan (QAPP), originally due in April, has been rescheduled for delivery in July. A revised draft will be distributed May 18 to EMAP Quality Assurance Officers, QAMS personnel, and OMMSQA and OEPER Quality Assurance Officers. EMSL-Cincinnati will host a meeting June 4-6 to discuss the revised draft, as well as issues relating to total quality management and data quality objectives.

- The methods manual for the Near Coastal Demonstration Project has been revised in response to comments made by EMAP-Near Coastal personnel and was submitted to Rick Linthurst.

Meetings and Briefings

General

- R. Linthurst presented a briefing on April 23 on the EMAP goal, objectives, and approach to the Great Lakes National Program Office and Region V Senior Management.
- At the request of the Acting Senior ORD Officer at RTP, J. Messer made a presentation on "Managing for Results" to the North Carolina business community. The briefing was part of a special Earth Day session, at which NC Governor Martin also spoke, held on April 24 at Research Triangle Park.
- At the request of the Assistant Administrator of ORD, J. Messer presented a briefing on EMAP at the meeting of the Southern Appalachian – Man and the Biosphere Cooperative in Asheville, NC, on April 9.
- B. Jones will meet with Denver Burns, Director of the USDA-FS Northeast Station, on May 25 in Philadelphia, PA, to discuss the joint EPA/USDA-FS National Forest Health Monitoring Program. He will also meet with Stan Couloff (Bureau of Land Management [BLM]) to initiate discussions on developing a BLM/EPA Memorandum of Understanding.

Ecosystem Task Groups

Agroecosystems

- J. Meyer and T. Moser (NSI) attended a USDA-National Agricultural Statistical Service (NASS) Enumerator Training Workshop in Virginia Beach, VA, April 16-19. The purpose of the workshop was to brief NASS state statisticians on changes in procedure and to highlight critical aspects of the NASS sampling design and survey procedures for newer staff members.
- L. Campbell (NCSU), Alva Finkner (Design Consultant), and John Rawlings (NCSU) participated in the EMAP Design ASA Panel Review, held April 19-21 in Dallas. J. Rawlings presented design options for agroecosystems and emphasized the benefits of cooperation with USDA-NASS.
- The Agroecosystem Task Group will meet May 7-11 at the Idaho National Engineering Laboratory in Idaho Falls, ID. The primary purpose of the workshop will be to evaluate and set priorities for proposed indicators for agroecosystems. All EMAP Technical Directors have been invited to sessions on cross-ecosystem linkages and QA/QC issues on May 10. Several Technical Coordinators also plan to attend the workshop.

Arid Ecosystems

- D. Johnson (DRI) will meet with soil scientists from appropriate EMAP Ecosystem Task Groups in Las Vegas on May 30-31 to develop the format for a soils workshop to be held later this year.

Forest Ecosystems

- Steve Cline (NSI) participated in the National Park Service workshop on inventory and monitoring on April 18 in Seattle, WA.

- Bill Burkman (NSI) attended the fourth planning meeting of the USDA-FS New England Forest Health Monitoring Technical Committee on April 5 in Manchester, NH.

Near Coastal Ecosystems

- To facilitate implementation of EMAP-Near Coastal in the Louisianian Province (Gulf of Mexico) in FY91, J. Paul visited the Dauphin Island Sea Laboratory (Dauphin Island, Alabama) and Texas Department of Parks and Wildlife (Austin, Texas).
- EMAP-Near Coastal will meet on May 14-16 at ERL-Gulf Breeze to discuss the outline of an implementation plan for the Louisianian Province. Discussion topics include a strategy for implementation, funding mechanisms, sampling design, indicators, and logistics.

Surface Water Ecosystems

- A meeting was held with the Office of Water that included representatives of the Office of Water Regulations and Standards (OWRS), Office of Wetlands Protection (OWP), and Office of Marine and Estuarine Protection (OMEP) in Columbia, MD on April 23. T. Dixon, D. McKenzie, F. Holland (Acting TD, Near Coastal), N. Leibowitz (Acting TD, Wetlands), and S. Paulsen (TD, Surface Waters) gave brief presentations on their respective EMAP activities. Areas of overlap and coordination between the various programs were discussed, and contacts for future interactions were identified.
- S. Paulsen made a presentation on EMAP-Surface Waters at the ASA Design Review on April 20 in Dallas, TX.
- Bob Hughes (NSI/ERL-C), Phil Larsen (ERL-C), Thom Whittier (ERL-C) and S. Paulsen met with state agency staff from Arkansas, Ohio, and Minnesota to discuss field sampling plans and these states' possible roles in EMAP surface water monitoring.
- A workshop on the design and indicators for lakes will be held in New Orleans, LA, on May 7-8. Approximately 20 individuals from universities, states, and other federal agencies will attend.

Wetland Ecosystems

- Lyman McDonald (University of Wyoming) and Ed Frayer (Michigan Technological University), a primary participant in the USFWS-NWI design, attended the EMAP Design Review on April 19-20 in Dallas, TX. L. McDonald also visited Corvallis April 9-10 and discussed proposed tasks and time-lines for EMAP-Wetlands deliverables with N. Leibowitz.
- N. Leibowitz will meet with Doreen Robb (OWP) and Mark Carrea (OMEP) in Washington, DC, on May 8 or May 10.
- N. Leibowitz briefed representatives of the Office of Water, including OWRS, OMEP, and OWP, in Columbia, MD, on April 23 on the current EMAP-Wetlands approach, FY 90-91 activities and deliverables, interagency cooperation, and future directions.

Coordination Groups

Assessment

- K. Thornton met with the EMAP Technical Directors and Steering Committee to discuss the "Example Annual Statistical Summaries" and the Near-Coastal Example Integrated Assessment on 11 April in Chapel Hill, NC. The Near-Coastal Task Group will submit the example assessment in August. A final assessment, including a full sensitivity analysis, will be submitted in November. Each of the other Task Groups will submit example annual statistical summaries in June. These summaries illustrate the types of data, analysis approaches, and presentation formats for reports to be published annually from each task group.

- K. Thornton met with B. Jones, C. Fox (Acting TD, Arid Ecosystems), and other members of the Arid Ecosystems Task Group in Reno, NV, on April 30 to discuss the "Example Annual Statistical Summary Report" for arid ecosystems. This Task Group will focus on indicators and indices of desertification for their example report.

Information Management

- Gene Meier (TC, Information Management), Steve Greenfield (EMSL-LV), and Rod Slagle (LESC/EMSL-LV) participated in a review of the Near Coastal Information Management system at Narragansett, RI, April 3-5.
- A briefing will be provided for Willis Greenstreet (Director, Office of Administrative Resources [OARM]) and Al Pesachowitz (Director, Office of Information Resources Management [OIRM]) on May 25 at RTP, NC. The briefing will address the status of the Information Management Group relative to planning (User Needs Analysis, Life Cycle Planning, ADP Plans, etc.) and the projected requirements for support from OARM/OIRM.

Logistics

- J. Baker attended a meeting in Narragansett, RI, April 3-5, to review the logistic planning efforts for the Near Coastal Demonstration Project.
- J. Baker will attend the three-week training program for the Near Coastal Demonstration Project, which begins on May 29. A summary of the training activities will be developed by J. Baker and LESC personnel participating in the training program.

Total Quality Management

- R. Graves (Acting TC, Total Quality Management), Jim Lazorchak (EMSL-Cincinnati), and Dennis McMullen (TAI/EMSL-Cincinnati) attended the Third Annual Ecological Quality Assurance Workshop in Burlington, Ontario, on April 24-26. J. Lazorchak chaired one of the plenary sessions.
- R. Graves will present "QA/QC Overview/ Expectations for EMAP" at the Agroecosystem Task Group meeting at the Idaho National Engineering Laboratory (INEL), Idaho Falls, ID, on May 7-11.
- R. Graves will make a presentation entitled "Integration of EMAP QA with Laboratory QAOs" at the ORD Quality Assurance Officer's meeting in Corvallis, OR, scheduled for June 26-28.

Publications and Presentations

- B. Jones. In press. Predatory behavior and habitat use of *Thamnophis cyrtopsis* (Kennicott) in a seasonally-variable aquatic environment. Southwestern Naturalist.
- Hermann, K., M.J. Hewitt, and D.J. Norton. 1990. Using existing sampling frames in a comprehensive national monitoring program. Abstract for GIS/LIS (Geographic Information Systems/Land Information Systems) Conference, to be held in Anaheim, CA, in November.
- Mace, T.H. 1990. Multistage remote sensing for a national environmental monitoring program database. Abstract for GIS/LIS (Geographic Information Systems/Land Information Systems) Conference, to be held in Anaheim, CA, in November.
- D. McKenzie presented a paper at the Third Annual Ecological Quality Assurance Workshop, April 24-26, at the Canada Centre for Inland Waters in Burlington, Ontario.

The paper presented an EMAP overview and addressed the challenges for QA in supporting the ecological aspects of EMAP.

- D. McKenzie and D. White presented an overview of EMAP, regionalization methodology, and the EMAP statistical design at the ecoregions review conducted by the EPA Science Advisory Board Subcommittee on Ecoregions, April 16-17, in Corvallis, OR.
- Norton, D.J., and E.T. Slonecker. 1990. EMAP landscape characterization and common exposure settings. Abstract for the Society for Environmental Toxicology and Chemistry (SETAC) Annual Meeting, to be held in Washington, DC, November 11-15.
- Norton, D.J., and E.T. Slonecker. 1990. The Environmental Monitoring and Assessment Program's landscape characterization data base: New opportunities in spatial analysis. Abstract for GIS/LIS (Geographic Information Systems/Land Information Systems) Conference, to be held in Anaheim, CA, in November.
- J. Paul made a presentation, "Quality Assurance Aspects of EPA's Near Coastal Ecological Status and Trends Program," at the Third Annual Ecological Quality Assurance Workshop, April 24-26, at Canada Centre for Inland Waters, Burlington, Ontario.
- C. Palmer gave an invited presentation at Brigham Young University, Salt Lake City, UT, April 6 entitled "Ecological Monitoring: A Strategy to Define the Health of U. S. Forests."
- The following papers will be published in a special issue of *Water, Air, and Soil Pollution* on EPA's Long-Term Monitoring Project, part of ORD's Acid Deposition Program.
  - Ford, M.J., and J.L. Stoddard. U.S. EPA's Long-Term Monitoring Project: An overview.
  - Kahl, J.S., S.A. Norton, T.A. Haines, R.B. Davis, R.E. Stauffer, and D.J. Cowing. Recent temporal trends in the acid-base chemistry of oligotrophic surface waters in Maine, U.S.A.
  - Morrison, M.L., and A.D. Newell. An evaluation of method changes for U.S. EPA's Long-Term Monitoring Project.
  - Murdoch, P.S., and J.L. Stoddard. Regional acid-base status of headwater streams in the Catskill Mountains, New York.
  - Newell, A.D. Inter-regional comparison of results from U.S. EPA's Long-Term Monitoring Project.
  - Newell, A., R. Hjort, and D.J. Blick. An approach for trend analysis when there are discrepancies in the period of record.
  - Schaefer, D.A., and C.T. Driscoll. Identifying sources of snowmelt acidification with a watershed mixing model.
  - Stoddard, J.L., and J. Kellog. Short-term trends and seasonal patterns of acidification in Vermont lakes: Results from the U.S. EPA's Long-Term Monitoring Project.
  - Turk, J.T. Monitoring of lakes in the Mt. Zirkel and Weiminuche Wilderness Areas, Colorado.
  - Van Dreason, R., and C.T. Driscoll. Processes regulating seasonal variations in the water chemistry of Adirondack lakes.
  - Webster, K.E., and P.L. Brezonik. An examination of recent chemical trends in low ANC lakes in the Upper Great Lakes States.

FUNDING FOR EPA GREAT LAKES NATIONAL PROGRAM (FY 1981-FY 1991)

($$ in thousands)

	FTE	S&E$$	AC&C	TOTAL
FY 1981	20.0	$751.7	$6,876.9	$7,628.6
FY 1982	21.6	$1,396.3	$4,178.8	$5,575.1
FY 1983	20.1	$1,248.9	$3,511.3	$4,760.2
FY 1984	17.7	$911.5	$3,108.2	$4,019.7
FY 1985	21.7	$1,124.5	$5,413.7	$6,538.2
FY 1986	20.2	$1,084.7	$3,772.1	$4,856.8
FY 1987	25.4	$1,344.2	$4,261.1	$5,605.3
FY 1988	24.8	$1,410.5	$9,472.4	$10,882.9
FY 1989	30.8	$2,259.7	$7,596.1	$9,855.8
FY 1990*	35.4	$2,961.6	$10,129.3	$13,090.9
FY 1991	45.4	$3,214.3	$9,023.7	$12,238.0

* FY 1990 figures do not reflect 5 FTE provided by OMB in March, 1990 to EPA as part of Great Lakes FY 1990 Congressional Add-on.

FUNDING FOR EPA GREAT LAKES RESEARCH PROGRAM (1981-1991)

($$ in thousands)

	FTE	S&E$$	R&D	TOTAL
FY 1981	10.7	$776.4	$2,654.5	$3,430.9
FY 1982	4.8	$905.9	$1,501.5	$3,407.4
FY 1983	7.3	$999.2	$1,499.8	$2,499.0
FY 1984	15.1	$1,131.5	$1,500.0	$2,631.5
FY 1985	10.0	$970.4	$1,341.4	$2,311.8
FY 1986	7.5	$623.7	$1,837.2	$2,460.9
FY 1987	6.4	$432.6	$1,494.6	$1,930.2
FY 1988	4.6	$444.8	$1,456.7	$1,901.5
FY 1989	7.2	$482.5	$1,400.7	$1,883.2
FY 1990*	8.0	$480.0	$1,437.6	$1,917.6
FY 1991	8.0	$480.0	$1,479.7	$1,959.7

* FY 1990 figures do not reflect 1 FTE provided by OMB in March, 1990 to EPA as part of Great Lakes FY 1990 Congressional Add-on.

[These figures were taken from the FY 1978-1991 Justification of Appropriation Estimates for Committee on Appropriations]

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United States Senate
COMMITTEE ON
GOVERNMENTAL AFFAIRS
WASHINGTON, DC 20510-6250

July 6, 1990

Brigadier General Jude W.P. Patin
North Central Division
U.S. Army Corps of Engineers
536 S. Clark Street
Chicago, Illinois 60605-1592

Dear General Patin:

Thank you for your testimony of June 13, 1990, before the Subcommittee on Oversight of Government Management concerning actions taken by the U.S. Army Corps of Engineers to protect and restore the environment of the Great Lakes.

To follow up on some of the matters raised during the hearing, I would appreciate your providing the following information by July 23, 1990.

> (1) Please provide an estimate of the relative cost of a Great Lakes dredging project for environmental purposes, such as the collection and disposal of contaminated sediments near a navigational channel, if this dredging were conducted: (a) as a stand-alone project, or (b) as part of an otherwise scheduled project to dredge the channel for navigational purposes. Is significant cost-saving likely if environmental and navigational dredging projects were combined?
>
> (2) At the hearing, you testified that the Environmental Protection Agency currently has authority under Sections 108 and 115 of the Clean Water Act to ask the Corps to conduct environmental dredging in the Great Lakes, although EPA has not yet invoked this authority. Could EPA use this authority to request that the Corps conduct environmental dredging in connection with navigational dredging projects in the Great Lakes? If so, would EPA (or states working with EPA) be required to provide the additional funds needed to conduct the environmental dredging? Could Corps funds be used for the

environmental dredging, if conducted in connection with the navigational dredging? Are there any other impediments to EPA's invoking this authority to request the Corps to conduct environmental dredging?

Thank you for your assistance on this matter. If you or your staff have any questions, please have your staff contact Elise Bean of the Subcommittee staff at (202) 224-3682. Also, when a final transcript is ready from the hearing, I will send you a copy.

Sincerely,

Carl Levin

Carl Levin, Chairman
Subcommittee on Oversight of Government Management

CL:ejb

cc: Colonel John Glass, Commander
Detroit District, U.S. Army Corps of Engineers

DEPARTMENT OF THE ARMY
NORTH CENTRAL DIVISION, CORPS OF ENGINEERS
536 SOUTH CLARK STREET
CHICAGO, ILLINOIS 60605-1592

July 23, 1990

REPLY TO
ATTENTION OF

JUL 27 1990

Directorate of Construction
and Operations

Honorable Carl Levin
United States Senate
Washington, DC 20510-6250

Dear Senator Levin:

Thank you for the opportunity to testify before the Subcommittee on Oversight of Government Management concerning U.S. Army Corps of Engineers actions to protect and restore the environment of the Great Lakes. I am responding to your request for additional information on dredging costs and Sections 108 and 115 of the Clean Water Act.

Significant overall cost-savings are possible if environmental and navigational projects are combined. For the dredging itself, savings due to reduced Mobilization and Demobilization and economy of scale would be realized. Mobilization and Demobilization would be required for one project rather than two individual projects. Increased quantities would result in lower unit prices.

Additional cost-savings are possible related to disposal of the material dredged. Contaminated sediments require confinement and/or treatment. For disposal, savings due to reduced planning and engineering and economy of scale would be realized. Planning and engineering for a confined disposal facility is a time-consuming, expensive process, and significant savings are possible in this area alone, if only one disposal site is required rather than two sites. One large site would result in lower unit prices for construction of a disposal facility. Another consideration is the difficulty of locating even one site for a disposal facility due to environmental concerns.

At a number of sites, the Corps has existing disposal facilities. If remaining capacity and environmental concerns allow, environmental dredging could be disposed in the existing facility. Some consideration for lost capacity for future navigational dredging would be required in most cases.

If all existing contaminated sediments could be removed from a harbor at which pollution discharges have been controlled, future savings related to navigational dredging could be achieved as confinement and/or treatment of dredged material would not be required.

There are numerous factors that must be considered in determining an estimate of cost of a Great Lakes dredging project, whether for navigational dredging or environmental purposes. Many of these factors are site specific. Attached are estimates of possible cost-savings associated with environmental dredging if combined with navigational dredging for two projects of varying size. These are examples only to provide an idea of the cost-savings possible.

Under Sections 108 and 115 of the Clean Water Act, USEPA could request that the Corps conduct environmental dredging in connection with navigational dredging projects in the Great Lakes. The Corps does not have authority to fund dredging outside the authorized Federal navigation channel, so funding would be required from the USEPA or the States. I am not aware of any other impediments to USEPA invoking this authority to request the Corps to conduct environmental dredging.

If there are further questions or concerns, please do not hesitate to contact me.

Sincerely,

Jude W. P. Patin
Brigadier General, U.S. Army
Commander and Division Engineer

Attachments

Small Harbor

Following are estimated cost savings associated with environmental dredging for a small project based on the following quantities. Savings associated with use of an existing disposal facility are not considered.

Navigation Dredging Quantity: 100,000 Cubic Yards
Environmental Dredging Quantity: 100,000 Cubic Yards
Total 200,000 Cubic Yards

a. Dredging Savings:

1. Mobilization & Demobilization (M&D) - In a combined project, mobilization and demobilization would be required for only the one combined project rather than two projects. M&D would be attributed to environmental dredging based on cubic yards of environmental dredging.

Stand-alone project ($100,000 M&D) = $100,000
Combined ($100,000 M&D x 100,000CY/200,000CY) = 50,000

Mobilization & Demobilization Savings = $50,000

2. Economy of Scale - In a combined project the unit price for dredging would decrease based on increased quantity.

Stand-alone Project (100,000 CY's x $8.50/CY) = $850,000
Combined (100,000 CY's x $8.25/CY) = 825,000

Economy of Scale Savings = $25,000

Total Dredging Savings = $75,000

b. Disposal Savings

1. Planning and Engineering Savings - In a combined project, only one disposal site would be required. Total Planning and Engineering savings are estimated to be $1 million based on recent disposal facilities. Savings would be attributed to environmental dredging based on cubic yards capacity out of total capacity attributed to environmental dredging.

Small Harbor (Cont'd)

Stand-alone project ($1,000,000) = $1,000,000
Combined ($1,000,000 x 100,000CY/200,000CY) = 500,000

Planning and Engineering Savings = 500,000

2. Economy of Scale - In a combined project, the cost per cubic yard capacity of a disposal facility would decrease based on increased quantity.

Stand-alone Project (100,000 CY's x $40.00/CY)= $4,000,000
Combined (100,000 CY's x $30.00/CY) = 3,000,000

Economy of Scale Savings = $1,000,000

Total Disposal Savings = $1,500,000

c. Total Savings = $1,575,000

Large Harbor

Following are estimated cost savings associated with environmental dredging for a large project based on the following quantities. Savings associated with use of an existing disposal facility are not considered.

Navigation Dredging Quantity: 200,000 Cubic Yards
Environmental Dredging Quantity: 500,000 Cubic Yards
Total 700,000 Cubic Yards

a. Dredging Savings:

1. Mobilization & Demobilization (M&D) - In a combined project, mobilization and demobilization would be required for only the one combined project rather than two projects. M&D would be attributed to environmental dredging based on cubic yards of environmental dredging.

Stand-alone project ($150,000 M&D) = $150,000
Combined ($150,000 M&D x 500,000CY/700,000CY) = 107,000

Mobilization & Demobilization Savings = $43,000

2. Economy of Scale - In a combined project the unit price for dredging would decrease based on increased quantity.

Stand-alone Project (500,000 CY's x $6.00/CY) = $3,000,000
Combined (500,000 CY's x $5.50/CY) = 2,750,000

Economy of Scale Savings = $250,000

Total Dredging Savings = $293,000

b. Disposal Savings

1. Planning and Engineering Savings - In a combined project, only one disposal site would be required.
Total Planning and Engineering savings are estimated to be $1.5 million based on recent disposal facilities. Savings would be attributed to environmental dredging based on cubic yards capacity out of total capacity of facility attributed

Large Harbor (Cont'd)

to environmental dredging. Total capacity of disposal facility is more than dredging quantities above as facility would be designed to contain navigational dredging for a number of years.

Stand-alone project ($1,500,000) = $1,500,000
Combined ($1,500,000 x 500,000CY/2,500,000CY) = 300,000

Planning and Engineering Savings = $1,200,000

2. Economy of Scale - In a combined project, the cost per cubic yard capacity of a disposal facility would decrease based on increased quantity.

Stand-alone Project (500,000 CY's x $15.00/CY)= $7,500,000
Combined (500,000 CY's x $10.00/CY) = 5,000,000

Economy of Scale Savings = $2,500,000

Total Disposal Savings = 3,700,000

c. Total Savings = $3,993,000

STATE OF MICHIGAN
JAMES J. BLANCHARD
GOVERNOR

EXECUTIVE ORDER

1990-7

GREAT LAKES PROTECTION

WHEREAS, the Great Lakes are a unique natural, recreational and economic resource of critical importance to the people of Michigan; and

WHEREAS, one of the foremost environmental issues facing the Great Lakes is pollution of the Great Lakes with persistent toxic substances; and

WHEREAS, Michigan, the only state located entirely within the Great Lakes watershed, is uniquely affected by the health of the aquatic system and has provided interstate and international leadership in protecting the Lakes from environmental degradation; and

WHEREAS, in 1986 the Governors of the Great Lakes states entered into the Great Lakes Toxic Substances Control Agreement ("Governors' Agreement") to coordinate regional action in controlling toxic pollutants entering the Great Lakes system; and

WHEREAS, in 1978 the U.S. and Canada entered into the Great Lakes Water Quality Agreement, amended in 1987 ("GLWQA"), adopting as a policy that the discharge of toxic substances in toxic amounts be prohibited and the discharge of persistent toxic substances be virtually eliminated; and

WHEREAS, Michigan shares responsibility with the U.S. Government to implement the Great Lakes Water Quality Agreement since Michigan is delegated to administer various environmental programs under several federal laws including the Clean Water Act; Clean Air Act; Resources Conservation and Recovery Act; Federal Insecticide, Fungicide and Rodenticide Act; and Comprehensive Environmental Response, Compensation and Liability Act; and

WHEREAS, by administering these state programs in a manner consistent with Great Lakes protection agreements, Michigan state government can improve the quality of the Great Lakes, both directly and by setting an example for other state, local, provincial and national governments;

NOW, THEREFORE, I, JAMES J. BLANCHARD, Governor of the State of Michigan, pursuant to the authority vested in me by the Michigan Constitution of 1963, the laws of the State of Michigan and the laws of the United States, do hereby Order that various departments and agencies of Michigan state government assist and participate in the implementation of the 1986 Great Lakes Governors' Agreement and the 1978 Great Lakes Water Quality Agreement, as amended, as follows:

IT IS HEREBY ORDERED THAT:

1. State departments and agencies shall reaffirm their commitment to these agreements:

    a. In developing administrative rules or guidelines that will impact the state's ability to implement the objectives of the Great Lakes Toxic Substances Control Agreement and the Great Lakes Water Quality

Agreement, all state departments and agencies shall include provisions necessary to assure consistency with the general and specific objectives of the GLWQA, the annexes thereto, and the provisions of the Governors' Agreement.

b. In proposing for public review and comment administrative rules or guidelines that will impact the state's ability to implement the objectives of the Great Lakes Toxic Substances Control Agreement and the Great Lakes Water Quality Agreement, all state departments and agencies shall prepare and make available for public review an analysis of how the rules or guidelines would improve the quality of the Great Lakes and how such rules and guidelines are consistent with the most relevant key provisions of the Great Lakes Toxic Substances Control and Great Lakes Water Quality Agreements. A copy of that analysis shall be provided to the Office of the Great Lakes in the Department of Natural Resources. Within sixty (60) days of the effective date of this Order, the Office of the Great Lakes shall provide procedures to all departments on how to prepare such an analysis.

2. The Department of Natural Resources shall work with its counterpart agencies in the other Great Lakes states and provinces and with appropriate federal agencies to ensure region-wide public review of state water quality standards and pollution control programs for consistency with the agreements.

3. State departments and agencies with pollution control responsibilities shall manage all pollution control programs, to the greatest extent practicable, so as to achieve the goal of virtual elimination of the discharge of persistent toxic pollutants, in toxic amounts, to the Great Lakes from Michigan sources:

a. The Department of Natural Resources shall, to the maximum extent practicable, administer the water discharge permit program such that all permits for sources in a watershed are reviewed together.

b. The Air Pollution Control Commission shall promulgate and implement air toxics rules to reduce, to the maximum extent practicable, the loadings of persistent toxic pollutants to the Great Lakes.

c. State departments and pollution control agencies shall administer and coordinate, as staff and budget allow, control programs to accomplish Michigan's responsibilities in implementing remedial action plans and lakewide management plans adopted pursuant to Annex 2 of the GLWQA.

4. All state departments and agencies shall encourage the reduction, reuse or recycling of persistent toxic substances as an alternative to the discharge or release of these substances into the Great Lakes. State departments and agencies responsible for promoting economic development shall emphasize development of those industries, agricultural or business practices, or processes that avoid or minimize discharges, emissions or releases of persistent toxic substances into the Great Lakes ecosystem.

All state departments and agencies shall cooperate in the implementation of this order.

Given under my hand and the Great
Seal of the State of Michigan, this
11th day of April, in the year of our
Lord, One Thousand Nine Hundred and
Ninety and of the Commonwealth, One
Hundred Fifty-Four.

James J. Blanchard
GOVERNOR

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
THOMAS J. ANDERSON
MARLENE J. FLUHARTY
GORDON E. GUYER
KERRY KAMMER
ELLWOOD A. MATTSON
O. STEWART MYERS
RAYMOND POUPORE

JAMES J. BLANCHARD, Governor
DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING
P.O. BOX 30028
LANSING, MI 48909

DAVID F. HALES, Director

JUN 2

June 13, 1990

The Honorable Carl Levin
United States Senator
Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Levin:

Please include this letter as part your June 13, 1990 hearing on Great Lakes water quality before the Subcommittee on Oversight of Government Management.

Michigan has taken a leadership role and is strongly supporting the Great Lakes Initiative, a cooperative effort among the eight Great Lakes states and the U. S. Environmental Protection Agency's (EPA) Regions II, III and V, and working with public and industrial interest groups to develop uniform water quality standards for the Great Lakes Basin. Consistent standards and approaches to toxic regulations are critical to the long range protection of the Great Lakes. The current process of each individual state developing water quality standards to protect the Great Lakes has led to many different assumptions and approaches. A comprehensive uniform set of water quality standards will protect the environment and minimize the differences in permitting programs among the Great Lakes states.

Developing Great Lakes water quality standards and publishing them as guidance under Section 304 of the Clean Water Act is the goal of the Great Lakes Initiative and represents a tremendous opportunity to bring the best of science and policy making together. If the effort is to be successful, however, a strong leadership commitment on the part of EPA headquarters is necessary. The Regions are cooperating fully in this Initiative. We have not, however, had a similar level of effort from EPA headquarters. Without a strong commitment on the part of headquarters, the regional states cooperative efforts could languish. Also, to have the headquarters staff resources of EPA available would greatly enhance the opportunity for success.

Michigan is a strong supporter of uniform and protective standards and we want to make sure that such standards, once developed, are effectively implemented throughout the Great Lakes Basin. We ask that you continue to support us in this endeavor.

Sincerely,

David F. Hales
Director
517-373-2329

May 29, 1990

William K. Reilly, Administrator
United States Environmental Protection Agency
401 M St. SW Room W 1200
Washington, DC 20460

Dear Administrator Reilly:

We are writing to emphasize the importance to the Great Lakes region of the "Great Lakes Water Quality Initiative". The Great Lakes Initiative is a cooperative effort by the eight Great Lakes states, EPA's Region II, III and V, and the Great Lakes National Program Office to establish consistent water quality guidance and criteria that are specific to the Great Lakes. Since the effort began in March 1989, impressive progress has been made toward the establishment of consistent standards for Great Lakes water quality. We strongly feel that the agency should place a high priority on the Initiative, and pursue its completion by the 1993 projected date.

The Great Lakes are in need of consistent, special water quality guidance and criteria for compelling environmental and legal reasons. Except for a one percent per year drainage through the St. Lawrence River, the Great Lakes are basically a closed system. As a consequence, the Great Lakes have a much greater retention time than flowing rivers and streams. The Lakes act as a sink for toxic chemical loadings arising from many facets of human activity both in and outside the basin. Once in the system, toxic compounds can resuspend from bottom sediments and cycle through the food chain harming the more sensitive organisms, including humans. As a drinking water source for 25 million of the region's residents, the Great Lakes merit special precautions to reduce chemical inputs.

Economic forces make consistent guidance and criteria a necessity within the basin. Consistency among States would provide a level playing field within the region and a predictable context in which industry can thrive.

Most importantly, however, the Great Lakes basin is binational in nature. Four of the five Great Lakes border on both the United States and Canada. As a consequence, two international agreements require special treatment of the system by the individual nations. The Great Lakes Water Quality Agreement envisions that discharges of any and all toxic substances to the Great Lakes should be virtually eliminated. Special water quality guidance for the Lakes would certainly be needed to approach this objective. In addition, the Helsinki Rules developed by the International Law Association in 1966, 1978, and 1982 establish principles for special protection of international drainage basins.

In conclusion, we urge you to place a priority on the Great Lakes Water Quality Initiative through sending headquarters staff to attend and participate in meetings of the Initiative's Steering and Technical Committees. We also urge you to incorporate the Initiative into any evolving EPA strategies for addressing Great Lakes protection matters. Thank you for your attention to this matter.

Bonnie L. Koenig
Bonnie L. Koenig, Director
Council of Great Lakes Governors

Michael J. Donahue
Michael J. Donahue, Director
Great Lakes Commission

John Jackson
John Jackson, President
Great Lakes United

Glenda L. Daniel
Glenda L. Daniel, Director
Lake Michigan Federation

Mark Van Putten
Mark Van Putton, Director
Great Lakes National Resource Center
National Wildlife Federation

Dick Munson
Richard Munson, Director
Northeast-Midwest Institute

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